1-1-1967

A concept of mind for the behavioral sciences.

William G. Quill
University of Massachusetts Amherst

A CONCEPT OF MIND FOR THE BEHAVIORAL SCIENCES

William G. Quill

B.S.Ed. State College, Fitchburg, Massachusetts

M.Ed. University of Massachusetts, Amherst

Thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of Doctor of Education

University of Massachusetts, Amherst

June 1967

This dissertation is approved by:

Advisor Jules M. Zimmer

Robert P. Wellman

Albert S. Guthrie

Dean Albert W. Purves

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

INTRODUCTION

1) Currently, many of the most widely used theories for systematically investigating human behavior have presuppositional bases derived from what may be termed materialistic-mechanistic and materialistic-epiphenomenalistic philosophies. These philosophical systems are (at least) characterized by the following presuppositions:

a) Materialistic-mechanism is essentially the view (whether expressed as traditional Newtonian mechanics or more recent particle theories) that the universe is constituted of ultimate particles of matter, clustering together in determinate configurations that appear in dynamic interrelation with one another throughout space and time. Therefore, by conceiving these indeterminately numerous configurations of material particles (dynamically occurring within a SPATIO-TEMPORAL framework) in conjunction with such ancillary concepts as mass, velocity, inertia, gravity, etc., extraordinarily fruitful mathematical and statistical formulations can be (and obviously have been) established as UNIVERSALLY VALID OR, at least, HIGHLY PRECISE STATEMENTS OF THE RELATIONS DEMONSTRATED AMONG GIVEN GROUPS OF MATERIAL PARTICLES (or macrocosmically speaking, material bodies) AT INSTANTANEOUS MOMENTS OF TIME.

b) Although there are somewhat different versions of this view, and even with regard to the one presented here many additional expository comments could be made, the primitive concepts 'material particles', 'motion', 'space', and 'time' are common to them all. Consequently, enough has been said to contemplate the theoretical conceptualization of mental phenomena that will logically follow from this philosophical position.

c) It becomes immediately evident that mental phenomena must necessarily be explained in

terms of material entities occurring in instantaneous relations with one another, as these relations can be formally expressed in contemporary physical and biological theories.

d) In effect, then, regardless of how mental phenomena may be conceived, they must, in the view of materialistic-mechanism, be expressible in physically quantifiable scientific statements of dependent relations. Stated differently, it must be concluded that mind can be completely reduced, in principle, to scientific statements about physical processes.

e) Another closely related, derivative theory from materialistic-mechanism is materialistic-epiphenomenalism. The latter places ultimate emphasis upon the same primitive concepts as the former, however, with the qualification that mental processes, in some unknown way, occur as causally INEFFICACIOUS "biproducts" (i.e., epiphenomena) of their underlying physio-chemical (and ultimately physical) processes. This is to say, as it is most manifestly evident in a Behavioristic psychology, for example, that any statements referring to the inner mental states of a human organism can be methodologically purged from scientific functional analysis for they unwarrantedly introduce variables not only intersubjectively directly INACCESSIBLE to observers, but moreover, such statements do not refer to causal determinants of human behavior. Here the term 'functional analysis' designates a systematic specification of the contemporary environmental (stimulus) conditions that interact with organisms' antecedently learned behavioral predispositions to determinately control organisms' response-behavior. These contingencies, alleged to in principle exhaust all possible efficacious factors involved in producing organismic behavior, are to be specified within a basic Stimulus-Response equation, utilizing other relevant theoretical constructs such as 'reinforcement', 'operant', 'reflex arc', etc. to facilitate behavioral explanation. Moreover, all behavioral contingencies are said to be directly intersubjectively verifiable, thereby remaining consistent with the basic tenets of materialistic-epiphenomenalism.

f) It is a principal objective of the writer (in this paper) to refute the two materialistic

theories briefly outlined above, to the extent that they are regarded as (in principle) capable of providing an adequate account of human mental processes. The writer shall argue that a scientific reduction of mental processes to their underlying physio-chemical correlates is LOGICALLY untenable; and that a Behaviorism, investigating human behavior solely as it is DIRECTLY ascertained through the EXTERNAL BODILY SENSES, can in principle provide only a PARTIAL scientific account of behavior; and last, that Behaviorism maintains a concept of "inner" or "mental" states that is essentially erroneous. In addition to these demonstrations, the writer will endeavor to propose a theory of mind both logically and empirically reconcilable with physical and biological scientific enquiry.

2) To gain a better understanding of the very subtle manner whereby materialistic-mechanistic theories profoundly influence the thinking of both public and scientific mentalities, hence predisposing cultures imbued with a history of scientific achievement to generally adopt an overly reductionistic concept of man's uniquely human character, let us briefly reflect critically upon certain theoretical, methodological and evidential tenets often (ERRONEOUSLY) regarded by philosophers, scientists and laymen as fundamental to scientific explanation.

3) First, we will consider the materialistic assumption which is in one form or another basic to much natural scientific enquiry (and hence seems to importantly influence other areas of science, although in a far more subtle way), that

a) (stated in its most general form) ULTIMATELY we will find that our universe is comprised of basic homogeneous material particles or configurations of particles occurring in dynamic, relative spatio-temporal interrelation with one another.

b) In fact, all physical theories must necessarily include hypothetical constructs positing ultimate entities, even though in practice theorists are not much concerned with discovering the "real" nature of these entities. Rather, the principal endeavor is to formulate constructs propitious for generating OPERATIONALLY FRUITFUL mathematical and statistical formulae to precisely ascertain determinate RELATIONS among entities. Of course this complex, abstract process is always concretely guided by a concern for rendering phenomenal occurrences explanable, and by the necessity for theoretical verification through "key" experiments. It is from this mode of emphasis that the scientific aims of prediction, control, and thereby explanation are fulfilled. But in all this the assumption that ENTITIES (generally regarded as ultimately MATERIAL: however, this latter inference is NOT LOGICALLY NECESSARY, as we shall discover) exist in dynamic relationships to one another in space and time is logically primitive; for after all, if mathematics and statistics are formal scientific disciplines that establish valid RELATIONS, the concept of 'relation' is vacuous unless there are ENTITIES to be related.

4) Even the most abstruse scientific investigations must, however, begin with DIRECT SENSE PERCEPTION (e.g., in initially becoming aware of problematic phenomena) and hence, verificationally terminate in DIRECT SENSE PERCEPTION (e.g., in the manifest results of "key" experiments). (It might be noted at this early stage of argumentation, that the writer will eventually ascribe a more general definition to the term 'perception' than 'that which is delivered through the external bodily senses'.) Thus from inter-subjectively accessible (initial) phenomenal occurrence, contemplated in reference to previously acquired 'wisdom' (e.g., prior relevant experimentation, theorizing, common sense, etc.), hypotheses are formulated, appropriate

experimental procedures are contrived and eventually submitted to empirical test, thereby yielding results which often enhance theoretical understanding or suggesting areas for revision.

a) In this essentially INSTRUMENTAL usage of knowledge (particularly) the natural sciences have made extraordinary advances in developing a THEORETICAL understanding of many directly perceivable phenomena (an understanding obviously yielding innumerable concrete benefits in our daily lives), to the extent that lawful, deductive explanations are available for UNDERSTANDING various concrete phenomenal observations.

b) But it must be understood, that the preponderance of this knowledge is THEORETICALLY FACTUAL, NOT EMPIRICALLY FACTUAL; that is, THEORETICAL CONSTRUCTS, abstract axioms, postulates, their derivative formulae, etc. (all of which are NOT directly observable in concrete external bodily sense perception) are PRODUCTS OF THOUGHT adhering, primarily, to the principle of non-contradiction. Although the issue of fact and theory is a highly complex, and at present, indeterminate matter in the philosophy of science, we can legitimately maintain the distinction that theories (with their constituative constructs, axioms, postulates, formulae, etc.) are, in principle, NOT directly ascertainable in direct external bodily sense perception. This is simply to say that we do not directly see, taste, smell, touch or hear such things as atoms, molecules, light waves, the MEANING of formula, etc.; rather, we IDEATIONALLY CONCEIVE them as instruments for facilitating our scientific enquiries.

c) More specifically, it must be said that theoretical elements exist, PSYCHOLOGICALLY, as highly elaborate IDEATIONAL PREDISPOSITIONS for understanding phenomenal reality as it is directly perceived. In essence, then, theories have ontological existence in the minds of men; although they may be rightfully understood to (ESSENTIALLY) LINGUISTICALLY REPRESENT natural-world correlates existing INDEPENDENTLY from individual human percipients. However, it cannot even be maintained that our THEORETICAL IDEAS of, for example, atoms are in fact ACCURATELY representative of the independently

existing entities to which they explanationally refer. Rather, it is only justifiable to assume that our theories explain the behavior of merely those ASPECTS of independently existing "atomic" entities that are ultimately DIRECTLY perceived as sensory perception.

d) To make this distinction somewhat clearer let us say that, first, we have made a distinction between the natural realm as it is directly perceived by individual human percipients, and an ideational symbolic domain used by percipients to render their perceptual content intelligible. In effect, these two realms are mutually exclusive at least in the sense that they are spatially separated. But in contrast to the more problematic issue of man's relation to what are hypothetically conceived as, for example, the microcosmic entities 'atoms', 'light waves', etc., let us consider the simple entity, 'tree'. A tree has DIRECTLY observable properties that are intersubjectively ascertainable, thereby rendering it a legitimate object of empirical knowledge. However, entities theoretically (hence, symbolically) characterized as 'atoms', for example, existing independently from human percipients, are far from being directly perceivable in the same way that we perceive a tree; namely, we do not have intersubjectively direct access to the intrinsic properties of atoms. Therefore, it is required that theoretical concepts of the structure of atoms be devised in accordance to the phenomenal representations of the independently existing entities to which we DO have direct perceptual access. From this methodological approach, highly fruitful explanations for relevant phenomenal occurrence can be established by developing equations rigorously demonstrating the modes of RELATION among the theoretically conceived constitutive components of atomic entities, and clusters of these entities.

e) It may be concluded, then, that we have a clear concrete notion of the intrinsic character of the ENTITY termed 'tree', for it is an object of direct perceptual experience. But conversely, our concept of the intrinsic nature of the entity symbolically characterized as 'atom' is very UNCLEAR for we have no direct perceptual apprehension of its structure; ALTHOUGH the notions we DO HAVE, as they are ultimately grounded in the phenomenal representations of "atomic" behavior ascertained in experimental

conditions, ARE highly determinate for they are of, essentially, the MATHEMATICALLY AND STATISTICALLY ascertained RELATIONS among theoretically postulated components collectively comprising the atomic model.

5) The point of our line of argument thus far is that in the modern historical development of the formal and natural sciences, man has fabricated an extraordinarily precise understanding of the mathematically, statistically and geometrically ascertainable RELATIONS existing among the HYPOTHETICAL or THEORETICAL ENTITIES AND THEIR COMPONENTS, alleged to constitute, microcosmically, the grossly perceivable entities of direct concrete experience. HOWEVER, this is to admit a view QUITE DIFFERENT from maintaining that we KNOW, with the degree of certainty accomplished in establishing the RELATIONS amongst entities of the formal and natural sciences, the INTRINSIC CHARACTER of INDEPENDENTLY existing entities ULTIMATELY CONSTITUTING the "substantial" nature of the universe.

a) In fact, a major continuing problem for metaphysics, for example, is in attempting to formulate a reasonably clear notion of "substance" or a model fruitfully portraying the essential character of "ultimate entities"; one that is tolerably consistent with scientifically established knowledge of the microcosm and macrocosm (as it is subject to ultimate verification through direct, intersubjectively accessible perceptual experience).

6) Simply stated, it becomes evident that our great certainty about particular aspects of nature is grounded in FORMALLY ASCERTAINED RELATIONS, demonstrated to characterize the structure of natural scientific THEORETICAL (HENCE,

HYPOTHETICALLY POSTULATED) ENTITIES. This means, essentially, that our concepts of the many RELATIONS existing among entities are extremely precise, while our understanding of the INTRINSIC NATURE of the ENTITIES THEMSELVES is very vague indeed (particularly with regard to microcosmic entities); consequently our notions of the "ultimate" nature of reality must remain commensurately vague.

7) Nevertheless, the omnipresent danger of making an unwarranted materialistic INFERENCE (e.g., that the universe IS ultimately constituted of homogeneous MATERIAL particles occurring in dynamic interrelation with one another, which in their spatio-temporally persisting configurations comprise the realm of primary and secondary qualities of sense perception) threatens constantly (and usually succeeds) to adversely influence our thoughts about reality. Of course this view, with some of its aforementioned presuppositions, proved remarkably fruitful for viewing the universe solely in terms of its primary qualities; hence yielding such concepts as mass, velocity, etc., that in turn were inestimably propitious for revealing many FORMALLY SPECIFIABLE RELATIONS amongst entities. Thus the enormous historical success of materialism undoubtedly persists in coloring our fundamental theories about reality.

8) But the great history of formal and natural scientific development seems to have importantly constrained theory construction in the psychological sciences (to cite but one area of the human studies); a general area that appears

never to have escaped (at least in modern thought) the negative or reductionistic influence of materialistic PRESUPPOSITIONS. This is to say that, essentially, the THEORY of ultimate MATERIAL particles in motion which function in dynamic interrelation with one another (regardless of the extent to which this view is elaborated; e.g., in certain contemporary physical theories) possesses a PRESUPPOSITIONAL basis that is IN PRINCIPLE INAPPROPRIATE for systematically investigating HUMAN CONSCIOUS PROCESSES.

a) Let us not confuse the scientific study of CONSCIOUS processes with that of PHYSIO-CHEMICAL processes. It is obvious that the most sophisticated physical-biological theories available should be consulted in investigating, for example, the structure of cerebral mechanisms and their various modes for energy transference. However, the writer shall maintain, primarily in Chapters I and II, that scientifically studying physio-chemical cerebral processes /AND similarly, gross MANIFEST human behavioral phenomena as (strictly) methodologically dictated by a Skinnerian Behavioristic psychology/ is, IN PRINCIPLE, DIFFERENT from systematically investigating their SUBJECTIVELY ACCESSIBLE CONSCIOUS CORRELATES. Hence the view of MIND to be propounded by this writer in the following chapters will be fundamentally an INTERACTIONISM, designating two EXPERIENTIALLY distinct domains of phenomenal occurrence -- i.e., perceptually ascertained through two mutually exclusive modes of perceptual presentation --: one NATURAL, and the other, IDEATIONAL.

9) Conceived differently, the writer will argue that from materialistic-mechanistic theories presently used for studying physio-chemical processes, it is, in principle, IMPOSSIBLE to logically deduce any information (whatsoever) about their correlative mental process, IF this is attempted from STRICTLY a physical and/or biological scientific frame

of reference. To persist in attempting to accomplish this end necessarily places such investigators in the position of committing what is typically defined as an 'unwarranted scientific reductionism'.

10) Furthermore, the factual perceptual deliverances constituting our personal experience do not suggest an EXCLUSIVELY physical, biological, or even Behavioristic approach to studying human behavior.

a) That is, even with our extraordinary knowledge of natural and biological phenomena, we are nevertheless quite IGNORANT of the ULTIMATE character of the MICROCOSMIC ENTITIES comprising nature. This is true, at least to the extent that the tenet 'the universe IS constituted of ultimate homogeneous MATERIAL particles occurring in dynamic configurational relations with one another, thereby collectively uniting into what individual human beings directly experience as reality (e.g., primary and secondary qualities as they portray nature, and inner bodily experience)' MUST AT THIS TIME REMAIN AN OPEN QUESTION. In fact, twentieth century physical scientific enquiry has shown materialistic presuppositions to be of diminishing importance in yielding fruitful investigation.

b) Since most of our knowledge of the microcosm proceeds from THEORETICALLY POSTULATED CONCEPTS, REPRESENTATIVE OF independently existing ENTITIES; and equally important, because the validity and reliability of these theoretical constructs are ultimately determined from DIRECT EXTERNAL BODILY SENSE PERCEPTION, it seems evident that we ought to practice what has so often been preached and thereby PLACE OPTIMUM CONFIDENCE IN OUR DIRECT PERCEPTUAL DELIVERANCES. Our awareness of reality must ultimately (in principle) be understood in terms of our direct perceptions of it, regardless of how ABSTRACTLY THEORETICAL (i.e., regardless of how intellectually removed our hypothetical devices become, in terms of being subject to direct perceptual verification) are the explanations that we offer to systematically comprehend phenomenal occurrence. It is obvious that the writer is ascribing an IDEATIONAL

status to theoretical formulations, and hence, regarding as untenable any position advocating that theoretical constructs can "somehow" transcend the testimonies of concrete perceptual experience and thereby comprehend the "ultimate structure of nature" (of course the writer's position is in need of considerable elaboration to specifically demonstrate the grounds for arriving at this conclusion; a task to be undertaken in forthcoming chapters).

c) But in attributing an ideational status to theoretical formulations, and moreover, all symbolic thought (conceived as a causally efficacious class of human behavioral determinants that CANNOT be EXHAUSTIVELY intersubjectively, DIRECTLY ascertained through external scrutiny; and thereby must be regarded as an INFERRED class of INTERVENING variables capable of significantly influencing human behavioral modes), the writer is NOT placing predominate emphasis upon external bodily sense perception (a view generally unpopular in contemporary scientific and philosophic circles). Specifically stated, the writer will be propounding a theory proceeding from an "expanded" concept of 'perceptual experience'; i.e., contrary to placing primary emphasis upon the deliverances of external bodily sense perception, the writer will also accentuate the function of internal bodily perception (consisting, generally, of "raw" feeling, emotional feeling and ideational feeling) to an extent that seems commensurate with its efficacity in influencing human behavior. Thus concomitant emphasis will be placed upon inner bodily perception in view of the fact that these (classes of) percepta are NOT available to DIRECT INTERSUBJECTIVE VERIFICATION, in contrast with external bodily sense perception. Moreover, the writer will maintain that our personally accessible internal bodily perceptions are considerably more numerous, and hence, proportionately causally efficacious as components of human behavior, than perception contributed from the natural world through external bodily sensory modes. If we do not devote adequate systematic attention to the STRUCTURE SUBJECTIVELY introduced to symbolic (i.e., predominately linguistic) behavior, then human behavioral research will be seriously impaired. In ultimately verifying these bold (at least in contemporary times) assertions, the reader will be repeatedly required to

> reflectively ponder the content of his DIRECT PERCEPTUAL EXPERIENCE, for it is essentially from this frame of reference that ALL conscious thought must proceed.

11) To render the view being introduced more forceful [and also, clearly relevant to the primary task of this paper, viz., to formulate a comprehensive concept of mind for the behavioral sciences that is concordant with the direct (perceptual) facts of concrete experience], let us briefly critically contemplate (particularly) two theories representing the major trends in modern psychology, namely, Psychoanalysis and Behaviorism. The writer maintains that each view is fundamentally subject to the criticism of effecting an 'unwarranted scientific reductionism'; that is, of theoretically asserting that mental processes can exhaustively (for the purposes of science) be explained in terms of their correlative physio-chemical process, or their manifest behavior as it is directly accessible to scientific observers via their external bodily senses. Both theories are based on materialistic presuppositions, and hence, contain, ultimately, the erroneous conception that scientific theoretical ENTITIES -- e.g., atoms, alleged to be ultimately constituted of configurations of homogeneous MATERIAL particles in motion -- actually embody the INTRINSIC structure of their INDEPENDENTLY EXISTING CORRELATIVE OBJECTS. The writer argues, conversely, that the formal and natural sciences yield extraordinarily precise knowledge of the (mathematically, statistically, and geometrically ascertained) RELATIONS among HYPOTHETICALLY POSTULATED SCIENTIFIC

ENTITIES; and further, that this knowledge of RELATIONS yields relatively little information about the INTRINSIC nature of their independently existing CORRELATES that constitute the natural world /which is to say, for example, that we have no way of knowing at this time (due to the inavailability of any relevant direct external bodily sense perception) whether 'atoms' "really" consist of MATERIAL sub-particles, or if 'light' "really" travels in wave-like trains of material particles. Actually, in pursuing this mode of enquiry, we easily miss the fact that hypothetical constructs are used (by scientists) INSTRUMENTALLY, to facilitate the establishment of more determinate FORMAL RELATIONS among theoretically postulated ENTITIES/. But an adequate elaboration of the problems of 'unwarranted scientific reductionism', 'the ontalogical status of theories, facts, and (hence) scientific knowledge claims', and other closely related problems are issues that cannot receive adequate attention in this paper due to their enormous complexity. Although, merely from our brief analysis, it is easily seen that they are problems intimately related to the phenomenon of mind, and it is for this reason that they have been introduced. Since the writer's objective in this paper is essentially to develop a concept of mind for the behavioral sciences (and even more specifically, psychology), let us restrict our criticism of Psychoanalysis and Behaviorism to simply demonstrating (in view of what has been said heretofore) that they are both epiphenomenalistic

theories.

a) Both psychological theories can be generally regarded as epiphenomenalistic, i.e., unwarrantedly (scientifically) reductionistic, in that mental events are conceived as causally inefficacious "by-products" of correlative (underlying) physio-chemical processes which, in fact, wholly determine the nature of mental processes, and thereby, overt behavior. It is necessary to maintain, from an epiphenomenalism, that 'ideas' constituting human thought do NOT "move" men, or more strictly speaking, (in part) determine their intelligent behavioral modes. Rather, it must be held that ALL human behavior results from a functional (i.e., law-like, in natural scientific and Behavioristic terms) interaction between a human organism's physio-chemical and manifest behavioral states (at a given time) as they interpenetratively RELATE with correlative external environmental conditions.

b) Psychoanalysis conceptualizes human behavior as primarily motivated by unconscious drives, the specific modes of which are established in early childhood, which persist in essentially determining resulting behavior throughout the lives of individuals.

c) The contemporary Behavioristic viewpoint of B. F. Skinner, for example, emphasizes the (theoretical) concept of 'conditioned reflex' as being the fundamental human behavioral (response) unit. Therefore it is maintained that the nature of human behavior can exhaustively be explained (i.e., in principle, manifest behavioral response-modes are capable of being predicted from specifically determinable antecedent stimulus-condition existing in an organism's external environment) by regarding behavior as an exact function of antecedent (externally located) environmental stimulus-events and resultantly activated (manifest) response-events, with a 'reflex arc' (theoretical) mechanism representing the physiological intermediary between the stimulus and response events. In this way, it is alleged, ALL causally significant variables in producing human behavior can, in principle, be ascertained, utilizing methods and procedures entirely (directly) intersubjectively verifiable.

d) It might be mentioned, parenthetically, that Client-Centered theories of psychotherapy, which

diligently attempt to avoid epiphenomenalism (and thereby accentuate the causal efficacy of individual consciously reflective behavior) are primarily deficient in that they do not define theoretical constructs and operational procedures in terms that are facilitative to rigorous scientific enquiry. Conversely, Behavioristic experimental procedures are, methodologically speaking, much more commensurate with those of contemporary natural sciences. Behaviorism (apart from considering certain theoretical constructs central to this view that can be subjected to severe criticism) emphasizes a rigorously specified methodological approach for studying behavioral phenomena, derived from the exact natural sciences; e.g., intersubjectively confirmable experimental procedures, statistical analysis of experimentally ascertained data, and so on. Therefore in this important sense, Behaviorism is, methodologically, a more suitable approach to studying human behavior than through Psychoanalytic or Client-Centered methods.

e) Both Psychoanalysis and Behaviorism de-emphasize the role of consciously reflective behavior as a causally efficacious factor in determining human behavioral responses.

f) Although this point is less evident in Psychoanalysis, its presuppositional basis (strictly speaking) necessarily implies an epiphenomenalism. This follows because manifest verbal content is INTERPRETED as being symbolically representative of a "real" (i.e., underlying), unconsciously motivated sexual drive (libido). Libido, however, has its source of origin in physio-chemical processes (Freud argues), therefore, any aspect of subjective conscious meaning is necessarily a mere symbolic reflection of a more valid unconscious content that ultimately has ITS ground in atomic materialistic process. This latter point is readily evident since Freud was importantly influenced by Hegelian Dialectical Materialism.

g) Behaviorism commits a similar unwarranted reductionism in maintaining that all causally significant variables determining human behavior (whether occurring in an organism's external natural environment, the organism's manifest behavior, or as physiological process) can be ascertained through the EXTERNAL BODILY SENSES of scientific observers. This necessarily implies that the

only causally efficacious variables that intervene between (directly) intersubjectively accessible stimulus conditions and subsequent response behaviors are physio-chemical processes; hence rendering inner mental states epiphenomenal (the term 'reflex arc' is devised to collectively portray intervening physio-chemical states).

h) It is from a basic disagreement regarding the theoretical adequacy of Behaviorism for providing (in principle) a complete account of human behavior, that the writer has been prompted to develop an alternate theory of human behavior; one that will supplement an "enlightened" Behavioristic position. It will be argued (in future chapters) that human behavior can be conceptualized (theoretically) in a mechanistic model, though one OMITTING materialistic presuppositions. The writer will also attempt to show the inadequacy of the construct, 'reflex arc', and consequently, demonstrate that it is precisely the phenomenon of SYMBOLICALLY CONSCIOUS REFLECTION that distinguishes human organisms as importantly unique from other objects of scientific scrutiny. Therefore, novel theoretical constructs are required to properly (in a non-reductionist manner) characterize this aspect of human behavior, and subsequently promote fruitful systematic study. In this effort, the writer will endeavor, also, to show that Behavioristic viewpoints are methodologically prohibited from directly investigating (the FACT of) consciously reflective behavior as causally efficacious in determining many human behavioral responses to stimulation. This results from the influence of materialistically defined presuppositions, and moreover, from their overly narrow verificational criteria (that lead to the exclusion of inner mental phenomena as legitimate FACTUAL data).

i) Therefore, a very basic problem for a behavioral science purporting to offer (in principle) a complete systematic understanding of human behavior is that a theoretical model for investigating this class of phenomena must be postulated which provides due emphasis on BOTH the involuntary and voluntary dimensions of behavior as they are efficacious in determining various modes of individual and group behavior; while in addition, adhering to the strict methodological policies of the exact sciences. Further, a theory is needed that is sufficiently comprehensive to include the global, integrated

nature of human behavior as it occurs in a multiplicity of environments.

12) In conclusion, the primary point that the writer wishes to make is that currently renewed speculations on the nature of mind are being seriously constrained by an excessive adherence to the highly admirable achievements of the natural and biological sciences. This is to say that theorists who endeavor to conceptualize mind, generally, are erroneously misled in contemplating mind (ultimately) exclusively in terms of the THEORETICALLY POSTULATED ENTITIES devised for the exact sciences (e.g., atoms, electrons, material particles, etc., with their ancillary theoretical concepts of energy, current, waves, mass, force, synapse, etc.). The bare fact of the matter is that, regardless of the great experimental utility of these theoretical entities (with their auxilliary concepts), THEY ARE IN PRINCIPLE DIRECTLY UNOBSERVABLE and thereby must be regarded as ABSTRACT IDEAS CONSTRUCTED BY THE MINDS OF MEN (hence designating them as possessing, ONTALOGICALLY SPEAKING, IDEATIONAL EXISTENCE). This unwarranted reductionistic trend achieves its extreme form in those contemporary schools of psychology and philosophy professing a, basically, epiphenomenalistic view of mental processes.

13) It seems that these cognitively well-habituated (erroneous) reductionistic views can be ultimately understood to issue from, perhaps, an unwitting acceptance of certain presuppositions leading one to regard the ultimate ENTITIES,

of which the universe is often alleged to be comprised, as being INTRINSICALLY MATERIALISTIC.

14) Our task, then, insofar as systematic speculation on the nature of mind is concerned, is to carefully examine the characteristic features and modes of occurrence of directly ascertained human perception -- both external AND internal --, for it is in direct perception of reality that the distinctive character of mind and its relation to nature is to be understood. From this analysis, it will be seen that concepts (i.e., theoretical constructs) NOT having directly (intersubjectly) verifiable external natural world perceptual correlates must be attributed a purely HYPOTHETICAL (therefore ideational) status.

15) But in order, psychologically speaking, to conceive 'ideas' (and, more generally, MIND) as having an intrinsically (ontalogically) different type of actuality from natural-world objects (many of which they SYMBOLICALLY REPRESENT), it is necessary to formulate a notion of IDEAS AS LEGITIMATE ENTITIES, and further, to show how they may determinately (intelligently) influence the behavior of men (thereby providing a reasonable theoretical alternative to the absurd conclusions of epiphenomenalism).

16) Once again, a satisfactory conceptualization of ideational ENTITIES will necessarily demand that all MATERIALISTIC presuppositions be purged from our formulations, though in a way not inconsistent with mechanistic (i.e., systems demonstrating contingent RELATIONS) explanation. It is to this task that we shall now proceed.

CHAPTER I

This discourse will be concerned with the general problem of conceptualizing (theoretically) human behavior such that, in maintaining scientific definitional rigor, we do not commit the error of adopting a behavioral model which neglects to comprehend causally efficacious aspects of human behavior. It has been said that of the three major approaches for systematically investigating human behavior within counseling and therapeutic contexts, Psychoanalytic and Behavioristic schools are, on logical grounds, unwarrantedly reductionistic in their comprehension of behavioral phenomena, and Client-Centered therapies frequently define their theoretical constructs in terms inappropriate for rigorous scientific investigation (this latter criticism may also be directed at Psychoanalytic schools, over and above the criticism of untenable reductionism). Therefore, the fundamental problem to be considered throughout this paper is that a new model for scientifically comprehending human behavior must be devised retaining the positive features of current theories previously discussed, while on the other hand, introducing new constructs which will include causally important behavioral phenomena heretofore methodologically excluded from experimentation by both former and current theories

because of their materialistic and/or mechanistic presuppositional bases and hypothetical constructs.

It seems reasonable that an appropriate model should IDEALLY, at least, be predicated upon the standards established by the three following criteria:

1) the constructs comprising the model should be logically consistent with one another

2) the model should be sufficiently comprehensive so as to include all the relevant factors which could possibly enter into any scientific explanation of human behavior

3) the hypothetical constructs of the model should be defined in terms readily amenable to exact scientific investigation.

(Note: Kurt Godel has shown that, logically speaking, criteria #1 and #2 are ultimately irreconcilable with one another; however, they are used here as postulated IDEALS toward which a developing science may aspire as it theoretically undergoes revision.)[1]

With the above criteria in mind it would be absurd for any theoretician to assume that his theoretical formulations would be qualitatively adequate to suffice as the final word in such an ambitious endeavor. Therefore, the viewpoint proposed in this paper is primarily meant to provoke critical reflection in those individuals who, perhaps unconsciously, regard their cherished theories to be, in principle (of course), quite adequate to yield an exhaustive explanation of all human behavioral phenomena. Considering the present level of development of the behavioral sciences,

---

[1]Ernest Nagel and James R. Newman, Godel's Proof (New York: New York University Press, 1960).

it is wholly unwarranted for anyone working in these fields to be dogmatic (i.e., theoretically). This is not to discourage the practice of carrying out a long-termed program of research stimulated from a given theoretical framework, but rather, researchers should be constantly willing to intellectually entertain and critically reflect upon presuppositions and theoretical constructs of diverse viewpoints (including their own) in an effort to at least suggest, if not synthesize, new modes for conceptualizing theoretical and experimental procedures.

Further, the views to be presented in this discourse are also intended to explicate and systematically comprehend various extremely important dimensions of human behavior which have been heretofore obscured by reductionistic psychological and philosophical theories. Specifically, now that the influence of Logical Positivism is beginning to wane in many disciplines of study (although one wonders about certain schools of American and British psychology), the highly perplexing and historically problematic nature of "private" or directly accessible mental states are again being seriously studied by philosophers and psychologists (e.g., see Minnesota Studies in the Philosophy of Science, Vol. I, II;[2] and Metaphysical Foundations of Modern

---

[2]Herbert Feigl, Michael Scriven, and Grover Maxwell (ed.), Minnesota Studies in the Philosophy of Science, Vol. II: Concepts, Theories, and the Mind-Body Problem (Minneapolis: University of Minnesota Press, 1963).

Science.[3] In fact, although this paper will be directly concerned with proposing a general theory for systematically investigating human behavior, preponderant emphasis will be placed upon formulating a theory for comprehending the subjective psychological form in which mental processes occur. This shift in emphasis from a more strictly Behavioristic position seems justified for two reasons. First, Behavioristic views appear to be admirably conceptualizing what may be termed as the manifest, intersubjectively directly accessible form of human behavior; hence, at this time, there seems to be little need to suggest any dramatic methodological revisions for current practices are being steadily refined. Secondly, contemporary Behavioristic efforts in the last thirty to forty years, under the influence of Logical Positivism, were devoted to placing psychology upon a firm scientific foundation thereby creating a discipline capable of formulating knowledge claims based upon evidence obtained from intersubjectively valid and reliable procedures for verification. In this endeavor a methodological approach for studying behavior was introduced, admitting as its evidential grounds only those behavioral phenomena available for direct intersubjective confirmation. A major problem with this procedure, as it will be argued throughout this paper, is that there are

---

[3]Edwin Arthur Burtt, The Metaphysical Foundations of Modern Physical Science (2d ed. rev.; Garden City, N.Y.: Doubleday & Company, Inc., 1955).

other causally efficacious human behavioral phenomena which must necessarily be excluded from Behavioristic methodologies for they are not subject to direct public confirmation. These phenomena fall into the class of mental events. Mental events are directly accessible only to those who experience them. External observers can, however, have indirect accessibility to these states if individuals who directly experience these mental states wish to symbolically (usually linguistically) express their meaningful content.

But Behavioristic thinkers (e.g., B. F. Skinner) may argue that such directly accessible mental states, while being genuinely "real" phenomena to be sure, are actually epiphenomena; hence, rendering them extraneous to scientific enquiry for they do not, in their view, possess the status of causal behavioral determinants.[4] This brings us, perhaps, to the central issue to be discussed in this paper; that mental events do, in fact, have a causal status as human behavioral determinants, and if this can be proven, Behavioristic methodological formulations must necessarily be regarded, on logical grounds, as overly parsimonious for they must, in principle, exclude a certain class of causally efficacious factual phenomena entitled mental events. Further, it must be logically granted from such a proof that while Behaviorism can yield very important contributions to

---

[4]B. F. Skinner, Science and Human Behavior (New York: The Free Press, 1965), pp. 23-42.

the scientific endeavor of explaining human behavior, it can never provide a full explanation; for its methodological stipulation that all factual data must be directly subject to intersubjective confirmation excludes the entire domain of directly accessible mental events which are, in principle, incapable of direct public ascertainment. Therefore, working on the assumption that the above criticism against Behaviorism can be substantiated, the way is clear to legitimately theorize about the logical form of "private" mental behavior which could then be subjected to experimental verification. This subjective psychological viewpoint is by no means a new one for its origin can be traced to the introspective methods of Titchner,[5] and thereafter in the Gestalt[6] and Phenomenological schools of psychology.[7] The view to be expressed in this paper, however, will represent an attempt to reconcile what has been termed here as the 'objective' and 'subjective' psychological viewpoints which, in themselves, are insufficiently comprehensive to effect a complete explanation of human behavior.

Perhaps enough has been said at this point to suggest, in a very general way, the nature of certain fundamental

---

[5]E. B. Titchner, A Textbook of Psychology (New York: Macmillan, 1910).

[6]Wolfgang Köhler, Gestalt Psychology (New York: Liverright, 1929).

[7]Anna-Teresa Tymieniecka, Phenomenology and Science in Contemporary European Thought (New York: Noonday, 1962).

problems to be considered in this paper. The preceding discussion, although seemingly straightforward at face value, actually contains an indeterminate number of subtle and difficult ramifications, most of which have yet to be clearly formulated, let alone resolved. In fact, Wilfrid Sellars, a highly respected contemporary logician and philosopher of science, regards the mind-body problem (which is, at bottom, the basic issue to be grappled with in this paper) in the following way:

> The traditional mind-body problem is... a veritable tangle of tangles. At first sight but one of the problems of philosophy, it soon turns out, as one picks at it, to be nothing more nor less than the philosophical enterprise as a whole. Yet if, to the close-up view of the philosopher at work, it soon becomes a bewildering crisscross of threads leading in all directions, it is possible to discern, on standing off, a number of distinguishable regions which, although but vaguely defined, provide relatively independent access to the whole. /Although in the ensuing discussion this writer will approach the problem in a markedly different way from Sellars'./[8]

Thus in the truest sense of the word, we shall be proceeding into deep waters; an excursion which many during the long history of philosophical thought have taken. Traditionally the results of these numerous enquiries have been, at best, highly illuminating but yet subject to incessant criticism. At worst, however, the whole issue of mind and body has been periodically discredited as a pseudo-problem and hence repressed. This attitude has been predominant within the

---

[8]Wilfrid Sellars, "Intentionality and the Mental," ed. Feigl, Scriven and Maxwell, II, p. 507.

last thirty years, particularly in Positivistically oriented philosophies and psychologies. (One of the increasing number of testimonies to the fact that the mind-body problem is still highly problematic is that the Minnesota Center for Philosophy of Science had quite recently published an entire volume entitled, Concepts, Theories, and the Mind-Body Problem.[9] Some of the most highly respected philosophers and scientists of our time have contributed articles to this volume. Interestingly enough, several of these men in past years had been closely associated with the famed Vienna circle, but have more recently found it necessary to modify their positions, in varying degrees, as philosophical positivism has become an increasingly untenable position to maintain. In pointing this out, it is merely to imply that men of great ability -- men who formerly regarded the mind-body problem as a pseudo-issue -- in response to valid criticism, now find the problem to be a genuinely substantive one.)

The reader may ask why this writer, whose interests are grounded primarily in the areas of counseling and therapy, should be concerned with an issue apparently of a purely philosophical nature. The answer, it seems, is that counseling and therapy are specifically the areas in which the full, pragmatic implications of philosophical and psychological theories of mind are to be applied and

---

[9]Feigl, Scriven, and Maxwell (ed.), II, op. cit.

critically contemplated. Those of us who are practitioners in these areas have an excellent opportunity to carefully observe concrete behavioral phenomena. In our efforts to explicate, and then unite relevant facts -- amid the vast number of accessible facts -- into a theoretical scheme (presumed to explain the causal conditions underlying various important behavioral phenomena) one has abundant opportunities to subject theoretical formulations (many of which are philosophical derivations) to empirical tests. Therefore, acute and sensitive practitioners are in a prime position to intelligently generate, and hence contribute to the construction of theories as well as evaluate their operational adequacy. Further, now that the sciences of human behavior are developed sufficiently to begin to seriously deal in systematic behavior modification, the mind-body problem is certainly no longer a purely speculative or discursive matter. It is, conversely, imperative that intelligent thinkers again reflect unprejudicely upon the innumerable difficult and illusive aspects of behavioral phenomena; to avoid reductionistic formulations or terms so metaphorical that they are rendered inexpedient for scientific enquiry. Rather we must heed the words of the great contemporary philosopher, Alfred North Whitehead, who has said that

> In order to discover some of the major categories under which we can classify the infinitely various components of experience, we must appeal to evidence relating to every variety of occasion. Nothing can be omitted, experience drunk and

> experience sober, experience sleeping and experience waking, experience drowsy and experience wide-awake, experience self conscious and experience self forgetful, experience intellectual and experience physical, experience religious and experience skeptical, experience anxious and experience care-free, experience anticipatory and experience retrospective, experience happy and experience grieving, experience dominated by emotion and experience under self restraint, experience in light and experience in the dark, experience normal and experience abnormal.[10]

Of the many things implicit within this quotation, one of the most important is that in our concrete, direct experience of both nature and our personal bodily states, there exists, if only we exercise sufficiently precise reflection, innumerable instances of stubborn fact primordially known by us as perceptions, delivered through the internal and external sensory modes. Potentially implicit within these facts, if relevant and penetrating reflective cognition is brought to bear upon them, are the possibilities for indeterminately expanding our human mentality as it endeavors to understand the reality of which it is a part. But if we commit the error, termed by Whitehead as 'misplaced concreteness', whereby deceptively abstract concepts are erroneously regarded as concrete matters-of-fact, then the full richness of concrete reality as it is disclosed in direct experience is largely overlooked, hence prompting us down the path of ultimate contradiction, for our reasonings lack concordance with the structure of

---

[10]Alfred North Whitehead, Adventures of Ideas (New York: Macmillan, 1933), p. 227.

reality. It is upon these concepts of 'experience' and 'error', which the reader would do well to keep in mind, that the remainder of our discourse will be predicated. These are merely two of the notions contained within the writings of Whitehead that we shall have occasion to utilize; many others will be introduced as we proceed with our analyses.

Although in the introduction to this discourse it was maintained that there are generally three schools of thought that predominate in the field of counseling and therapy, viz., Psychoanalytic, Client-Centered, and Behavioristic viewpoints, only the latter will be specifically considered, while the other two views will be implicated indirectly. The reason for this is a practical one; it will be very difficult achieving coherence and continuity amongst the arguments and conceptual developments both referring to and suggested by merely an analysis of Behavioristic theories -- which claim as their meritorious attributes, clarity, parsimony and scientific propitiation --, let alone introducing the great complexities and obscurities of Psychoanalytic and Client-Centered theories, critically contemplated from the point of view of exact science.

Therefore let us begin with a critical analysis of the influential Behavioristic thinker, B. F. Skinner. Initially in this task it is imperative to become clear on the essential relevant elements of Skinner's methodological approach to studying human behavior; a methodology which he does not regard as being theoretical (a point that we shall

have occasion to criticize).[1] The writer's criticisms of Skinner's views will be delivered in two stages; the first in this chapter, and the second in chapter five. The reason for doing this is twofold. In the first case, our critical analysis will provide the basis for developing what has been entitled a subjective psychological way of comprehending human behavior theoretically. In the latter stage the criticism to be made will be largely predicated upon the general theory being propounded. Hence, it would be impractical to expect the reader to understand or comprehend the full impact of the criticism without a knowledge of the frame of reference from which the criticism issues. Further, a major reason for critically analyzing Skinner's views -- as is similarly the case with respect to our future analysis of certain concepts intrinsic to the philosophy of John Dewey -- is that both of these men suggest in their writings an importantly large number of the fundamental constructs to be incorporated into the writer's theoretical position. It would, however, simply be too difficult and overly confusing to indicate in detail all of the specific areas of commonality and differences among the systems to be critically contemplated, therefore, the responsibility for making these discriminations will largely remain with the readers.

Now let us consider the "methodological" position of Professor Skinner's Behaviorism (which is not exactly equivalent to various recent modified versions defined as

Logical Behaviorism, a general view purported to be less extreme), a view regarded by this writer as an adequately representative version of the divergent schools of Behaviorism. This is to say that the writer's criticisms will be directed at those areas which differing forms of Behaviorism share in common. In stating Professor Skinner's position, only those portions that are of immediate relevance to our purposes in this paper will be presented. These purposes, known only at this point as a criticism of Behaviorism with the resultant development of a subjective psychological theory of human behavior following largely from the theoretical shortcomings of the former system, will become increasingly more lucid as our discussion unfolds.

Skinner maintains that human behavior can be, in principle, COMPLETELY 'described' (to use his terminology, for he would not use the term 'explain') in terms of DIRECT, publicly observable (hence, operationally specifiable) stimulus and response functional relationships.[11] It is, according to Skinner, in this alleged possibility that a genuinely objective, exact science of human behavior can be established. This is the basic presupposition upon which all other postulates are predicated. A further consideration is that all human behavior occurs from an interpenetrative relationship between organism and environment. More specifically, this means that behavior can be completely

---

[11] Skinner, Science and Human..., op. cit., p. 11.

comprehended in terms of a functional interaction between specified environmental conditions at a given point in time as they determine, through providing reinforcement, the behavior of an organism whose response capacities at that time are limited to the previously conditioned repertoire of behavioral (reflexively activated) predispositions developed in the organism as a result of its antecedent experiential interaction with corresponding environments. Organismic predispositional capacities, conceived separately from learned behaviors, are ultimately governed by genetic inheritance. Thus a practical derivation from the former "methodological" principles with respect to actually experimentally verifying basic postulations is that

> both behavior and environment may be broken into parts which may be referred to by name and that these parts will retain their identity from experiment to experiment. If this assumption were not in some sense justified, a science of human behavior would be impossible.[12]

Now let us look a bit more closely at the concepts of 'stimulus' and 'response' and focus upon some of the necessary implications of them. Stimulus and response are regarded as EVENTS and not properties of given objects. Considering first, response-events, Skinner holds that

> given a particular part of the behavior of an organism... the investigator seeks out antecedent /environmental/ changes with which the activity is correlated and establishes the

---

[12]B. F. Skinner, Cumulative Record (New York: Appleton-Crofts-Century, 1959), p. 347.

> conditions of the correlation. This is the reflex nature of the behavior.[13]
>
> A reflex is an observed correlation of a stimulus and a response. Once given a specific stimulus-response correlation, we may, of course, investigate the psychological facts of its mediation. The information there revealed will supplement our definition, but it will not affect the status of the reflex as a correlation.[14]

Thus by reflex, Skinner is positing a theoretical category of behavioral activity which is assumed to underlie investigators' bare observations. The observation of a correlation between two spatially discreet activities has led to the inference of a series of intervening events which establish a causal connection between the directly observed stimulus and response events. The construct defined as reflex arc represents these unobserved, hence hypothetically postulated series of events. This leads to a distinction between reflex physiology and a psychological science of human behavior whose differences are seen primarily in the immediate purposes of each discipline. For example, reflex physiology seeks description of reflex in terms of physiochemical events (therefore the term synapse is used instead of reflex arc), and a behavioral science seeks to describe and explain behavior in terms of the reflex. Now we might raise the questions of what is involved in the process of describing behavior, and how does the hypothetical construct,

---

[13] Ibid., p. 330.

[14] Ibid., p. 331.

reflex arc, function in Behavioristic psychology?

The term 'behavior' must include the total publicly manifest activity of an organism at a given time; the functioning of all the behavioral components in their interrelationships with one another. Behaviorists are primarily interested in the movement of an organism within a strictly controlled experimental situation. This, of course, ultimately includes any INFERRED internal changes which have an observable and a causally significant effect upon what is generally regarded as publicly observable, microscopic behavior. Therefore the task of a behavioral science is to describe events not only in their isolated particularity, but also in their relationship with other events. It is in this that a science can achieve substantially valid and reliable "explatory and predictive power."

> Contemporary science maintains a more humble position with regard to explanation and causation. Explanation is reduced to description, and the notion of function is substituted for causation. Therefore, a full description of an event is regarded to provide a description of its functional relationship with antecedent events. In the description of behavior we are interested in the relationship within a regressive series (observed response) to those energy changes at the periphery which we designate as stimuli. The two end events, the behavior and the stimulus, have a particular importance because they alone are directly observable in an intact organism, and because they limit the series /they provide the "cut-off points" for an event so that it can be called a particular event/. With the relationship of these two end terms the description of behavior is chiefly concerned.[15]

---

[15] Ibid., p. 338.

Skinner then effectively incorporates the concept of reflex arc when he states

> The reflex is important in the description of behavior because it is by definition a statement of the necessity of this relationship. The demonstration of the necessity is ultimately a matter of observation: a given response is observed invariably to follow a given stimulus. The more general statement, the hypothesis 'the behavior of an organism is an exact function of the forces acting upon the organism' states the correlation of a stimulus and a response. It is, in this sense, the broadest possible statement of a reflex, but it is not an observed correlation and is therefore a hypothesis only.[16]

In the next statement, Skinner justifiably tempers the immediately preceding postulation as a result of the pragmatic limitations of actual experimental situations when he says

> It is, nevertheless, solely the fault of our method that we cannot deal directly with this single correlation between behavior as a whole and all the forces acting upon an organism stated in the hypothesis. Quantitative statements of both stimulus and response and a statistical demonstration of the correlation are theoretically possible but would be wholly unmanageable. We are led, for lack of a better approach, to investigate the correlation of parts of the stimulus with parts of the response. For the sake of greater facility of description, we turn to analysis.[17]

This last quotation is an excellent statement of Professor Skinner's position with respect to the problem of privately (directly) accessible mental events which he regards as the middle, but causally inefficacious

---

[16] Ibid., p. 338.

[17] Ibid., p. 339.

(epiphenomenalistic) link (at least as the process is interpreted by Skinner) which intervenes between stimulus and response. It is precisely at this point that much of the criticism of the writer will be focused, both with reference to Skinner and to a lesser extent with Dewey.

> The objection to inner states is not that they do not exist, but that they are not relevant in a functional analysis. We cannot account for the behavior of any system while staying wholly inside it; eventually we must turn to forces operating upon the organism from without. Unless there is a weak point in our causal chain so that the second link is not lawfully determined by the first, or that the third by the second, then the first and the third links must be lawfully related. If we must always go back beyond the second link for prediction and control, we may avoid many tiresome and exhausting digressions by examining the third link as a function of the first. Valid information about the second link may throw light upon this relationship but it can in no way alter it.[18]

It seems that these quotations contain the essential elements of Professor Skinner's position, at least with respect to those basic principles upon which his more comprehensive theory of human behavior rests. Again, this exposition of his view is by no means intended to be exhaustive; rather only that portion has been stated which is of particular relevance for the purposes of this discourse. We shall now temporarily leave our analysis of Skinner's Behaviorism and turn to the views of John Dewey; views that are in certain respects markedly similar to B. F. Skinner's.

Dewey, a man who possessed great faith in the powers of science as it enhances the well-being of mankind, wrote

---

[18] Skinner, Science and Human..., op. cit., p. 35.

at a time when various introspectionistic psychologies were still influential, thus in many of his writings there are numerous explicitly and implicitly stated crtiicisms of such obscurantistic schools of psychology and philosophy. However, the reader is encouraged to take careful notice in the following quotations of the serious confounding of "physicalistic" and "mentalistic" terminology which pervades many of the relevant excerpts from his writings that we shall consider. This is odd, for Dewey's philosophical position is most assuredly intended to be essentially "Behavioristic", for one of his primary philosophical missions was to emphasize the importance of hypothetical-deductive thinking behavior. It is not the intention of this writer to denigrate the many valuable philosophical contributions of Dewey; on the contrary, his analysis of thought processes, contemplated as an action-oriented instrumental class of behavior (a class which, he felt, could be adequately analyzed in publicly verifiable terms) which if properly disciplined could yield progressively increased intelligent behavioral action (thereby leading to commensurately better individual life adjustment) was a profound contribution to the on-going study of human behavior. In systematically articulating this intricate process, Skinner is very careful to purge his works of mentalistic terminology. This is not the case with Dewey; therefore, many of his writings are marred as a result of this ambiguity. However, strangely enough as we shall see, it is precisely due to this

persistent undercurrent of terminological confounding that Dewey becomes a highly appropriate transitional figure from strict Skinnerian Behaviorism to the theory which will be proposed by this writer. Dewey, while having strong scientific sentiments, was equally as concerned with explicating the full implications of personal human experience, and therefore was not overly reductionistic in his characterization of man. Reductionism as used here simply means that Dewey was not preoccupied with explaining human behavioral phenomena in strictly physio-chemical, or otherwise naively mechanistic terms. As we proceed, then, it will be seen that many concepts in the theory to be proposed in this paper are very much IMPLICIT in the writings of Dewey although it is unlikely that he would have ever strictly subscribed to them as they will be formulated. A case in point seems to be in evidence with respect to the mutual admiration that Whitehead and Dewey had for one another. Many philosophers (particularly Positivistic thinkers) have been appalled by the strong metaphysical sentiments of Whitehead, while on the other hand regarding Dewey as frequently compatible with rigidly empiricistic views. However, upon closer scrutiny, there are numerous similarities (and of course important presuppositional differences) between Whitehead's Subjective Realism and Dewey's Instrumentalism. It would take us far afield at this time to explicate these similarities and differences, but the reason for making reference to the issue at all is that the

position to be proposed by the writer is closely related to that of both Dewey and Whitehead.

Now we shall commence in analyzing some relevant views maintained by Dewey. Dewey's position with reference to thinking-behavior is that cognition is a dynamic functional process, inextricably a part of total organismic behavior, thus meaning that it cannot be a distinct consideration apart from "physical" behavior. To separate thinking from "physical" behavior is to necessarily commit an indefensible mind-body dualism. Therefore, since behavior is an interpenetrative process where organism acts upon environment and then experiences the reciprocal environmental effects of premeditated action, and since a certain class of operationally utilitarian, reflectively disciplined behavior is what Dewey conceives as intelligent behavior facilitative to growth, it can be concluded that all human behavioral phenomena, although qualitatively variable, can be systematically comprehended in functional relationships involving organisms and their environment whereby the organism must effectively adjust to their environment or modify their environment to organismic needs in order for the species to survive and prosper. Skinner would, it seems, agree wholeheartedly with this general view. The important differences between the two thinkers occurs in their ultimate purposes and methods by which they theoretically specify functional relationships. Stated simply, it appears evident that any significant differences

with respect to conceptualizing thinking-behavior are due to the fact that Skinner is a behavioral scientist and Dewey is a philosopher, therefore it is obvious that their modes of theoretical expression will differ according to their discipline.

In one place Dewey defines thinking as

> the intentional endeavor to discover specific connections between something which we do and the consequences which result, so that the two become continuous. Their isolation, and consequently their purely arbitrary going together, is cancelled; a unified developing situation takes its place.[19]

Even the most casual of readers would conclude that this definition contains many fruitful implications. Obviously the definition is antithetical to the notion of merely random behavior. Dewey's definition of thinking -- intelligent thinking in this case -- is a statement about uniquely human behavior in that notions such as 'consciously intentional' and 'reflectively conscious' behaviors are implicit, but moreover, it is a specification of a particular behavioral mode; one quite distinct from other possible modes. Let us investigate HOW this proposed form of intelligent behavior intrinsically differs from other possible types such as sheer random behavior, or those which could be explained in mechanistic terms. Dewey defines habitual behavior as follows:

---

[19] John Dewey, Democracy and Education (New York: Macmillan, 1916), pp. 145-146.

> Habit means that an individual undergoes a modification through an experience, which modification forms a predisposition to easier and more effective action in a like direction in the future. Thus, it also has the function of making one experience available in subsequent experiences. Within certain limits, it performs this function successfully. But habit, apart from knowledge, does not make allowance for change of conditions, for novelty. Provision for change is not part of its scope, for habit assumes the essential likeness of the new situation with the old.[20]

Therefore, for Dewey, habitual behavior occurs (to use Skinner's terms) where the organism has discriminated among only a narrow class of stimuli and as a result it can only evoke a correspondingly narrow group of responses. The organism cannot adequately respond to novel stimuli; thus established habituation will persist until a new class of behavioral operants become effectively habituated through proper reinforcement, and are thereby integrated into the organism's behavioral repertoire. This, of course, entails that appropriate corresponding schedules of reinforcement be maintained to firmly establish given operant behavior. In any case, for Dewey, the class of behaviors termed negative habituations means that human beings cannot readily break out of their established behavioral routines as they necessarily occur as a function certain corresponding stimuli, therefore, implying that individuals cannot (generally) adequately spontaneously cope with novel problematic circumstances. To grow beyond this constraining

---

[20] Ibid., pp. 339-340.

situation, Dewey proposes that greater knowledge is required for effective problem solving. Here knowledge has a highly determinate meaning.

> While the content of knowledge is what HAS happened, what is taken as finished and hence settled and sure, the REFERENCE of knowledge is future or prospective. For knowledge furnishes the means of understanding or giving meaning to what is still going on and is to be done.[21]

Thus knowledge is what is generally agreed upon as scientifically ascertained fact at a given period of time. However, because of the incessantly changing nature of reality and the acquisition of increased knowledge, previously established facts must also undergo commensurate revision, for otherwise a resultant lag in knowledge would occur, thus impairing future progress. An effective way to achieve this constant revision of factual information is to intelligently utilize previously established facts as a FRAME OF REFERENCE; hence as INSTRUMENTS for both suggesting and conducting scientific investigations. But this raises a problem: is Dewey merely advocating that in order to transcend habitual patterns of behavior, one has only to provide a given individual with a greater quantity of facts? Certainly not; and this brings us to the crucial dimension of this problem, namely, the factor of reflective thinking which is the essence of Dewey's well known five-stage characterization of the LOGICAL form of intelligent

---

[21] Ibid., p. 341.

thinking-behavior.

> While all thinking results in knowledge, ultimately the value of knowledge is subordinate to its use in thinking.[22]

This quotation contains the fundamental maxim of Instrumentalism: thinking for its own sake is of limited value, but thinking as a MEANS to promote more thinking is the basis of a utilitarian attitude toward life whereby human organisms can make more effective reconciliations between environmental demands and organic needs. Reflective thinking is our most potent means of realizing the Instrumentalist's ideal, for when intelligently engaging in contemplating the nature of an unfamiliar event, for example,

> We respond to its CONNECTIONS /with other facts that are already known/ and not simply to the immediate occurrence. Thus, our attitude to it is much freer. We may approach it, so to speak, from any one of the angles provided by its connections. We can bring into play, as we deem wise, any one of the connections. Thus we get at a new event indirectly instead of immediately -- by invention, ingenuity, resourcefulness. An ideally perfect knowledge would represent such a network of interconnections that any past experience would offer a point of advantage from which to get at the problem presented in a new experience. In fine, while a habit apart from knowledge supplies us with a single fixed method of attack, knowledge means that selection may be made from a much wider range of habits.[23]

Reflective behavior, then, involves a disciplined, habitual (but here habit has acquired a positive meaning) attitude and method of coping with problematic, novel situations.

---

[22] Ibid., p. 151.

[23] Ibid., p. 340.

Initially we comprehend a problem in terms of its particular dimensions about which we have already some factual familiarity. Stated differently, we understand a given problematic occasion in terms of what our past knowledge has predisposed us to comprehend in the present occasion. Then by means of reflection more numerous cognitive associations are made until we have established a program for further analysis guided by tentatively formulated hypotheses, subject to revision as further factual information is experimentally obtained. Frequently during this reflective stage, overt, action-orientated behavior is postponed until an intelligently determined program for analysis can be formulated. Another very important factor which Dewey stresses is that when we confront a problem we are not compelled to merely contemplate those data immediately manifested by problem; rather, over and above the "immediately given" there is a backlogue of relevant wisdom that has been gradually learned and incorporated as positive behavioral habits acquired through having intelligently reflected upon a multitude of past experience. Therefore, much of this previously learned information can be fruitfully brought to bear upon currently available data to enhance their meaning by suggesting novel modes for analytical enquiry. This is an extremely important issue and we shall have occasion to contemplate its many implications in greater depth as the discussion proceeds. This cursory account of Dewey's concept of intelligent thinking-behavior

provides the basis for our next step in which this same topic is conceived by Dewey from a somewhat different perspective. He presents an analysis in terms that may more appropriately be regarded as mentalistic as opposed to Behavioristic or even philosophically rigorous terms. Dewey, in emphasizing this slight shift in analytical perspective enables us to, in a sense, more clearly understand his conception of consciousness; a notion, it will be argued, which is unclear.

Here Dewey is again discussing the nature of intelligent problem-solving behavior.

> Action with a purpose is deliberate; it involves a consciously foreseen end and a mental weighing of considerations pro and con. It also involves a conscious state of longing or desire for the end. The deliberate choice of an aim and of a settled disposition of the desire takes time. During this time complete overt action is suspended. A person who does not have his mind suspended does not know what to do. Consequently he postpones definite action so far as possible.... During the time in which a single overt line of action is in suspense, his activities are confined to such redistributions of energy within the organism as will prepare a determinate course of action.... All this means an accentuation of consciousness; it means a turning in upon the individual's own attitudes, powers, wishes, etc.[24]
>
> Obviously, however, this surging up of personal factors into conscious recognition is a part of the whole activity in its temporal development. There is not first a purely psychical process, followed abruptly by a radically different physical one. There is one continuous behavior, proceeding from a more uncertain, divided, hesitating state to a more overt, determinate, or complete state. The activity at first consists mainly of certain tensions and adjustments within

---

[24] Ibid., p. 347.

the organism; as these are coordinated into a unified attitude, the organism as a whole acts -- some definite act is undertaken. We may distinguish, of course, the more explicitly conscious phase of the continuous activity as mental or psychical. But that only identified the mental or psychical to mean the indeterminate, formative state of an activity which in its fullness involves putting forth of overt energy to modify the environment.[25]

Our conscious thoughts, observations, wishes, adversions are important because they represent inchoate, nascent activities. They fulfill their destiny in issuing, later on, into specific and perceptible acts. And these inchoate, budding organic readjustments are important because they are our sole escape from the dominion of routine habits and blind impulse. They are activities having a NEW meaning in process of development. Hence, normally there is an accentuation of personal consciousness whenever our instincts and ready formed habits find themselves blocked by novel conditions. Then we are thrown back upon ourselves to reorganize our own attitude before proceeding to a definite and irretrievable course of actions. Unless we drive our way through by sheer brute force, we must modify our organic resources to adapt them to the specific features of the situation in which we find ourselves. The conscious deliberating and desiring which precede overt actions are then methods of personal readjustment implied in activity in uncertain situations.[26]

I have quoted Dewey at length here for these statements are a powerfully imaginative, succinctly comprehensive expression of his conception of holistic organismic behavior; an integral part of which is thinking-behavior. Conversely, it is maintained by this writer that there is in these quotations what appears to be a clear indication of the error (an error which is only IMPLICIT in the passages

---

[25] Ibid., pp. 347-348.

[26] Ibid., p. 348.

quoted in this paper, but EXPLICITLY stated in other writings, i.e.,[27]) that Dewey has made with regard to his view that thinking-behavior can be ENTIRELY explained in terms of scientific functional /NOTE: here it seems that the term 'functional' must possess a meaning similar to that of Skinner's whereby explanations for understanding given observed behavioral phenomena are provided by specifying those antecedent observable environmental conditions which (statistically) correlate significantly with resultant observed behaviors (hereafter referred to as a physical$_1$ form of explanation). This issue is discussed in greater detail by Herbert Feigl[28] and Ernest Nagel.[29]7 relationships, for as this writer will argue, privately accessible phenomena cannot be accounted for in this analytical or objectively psychological framework /NOTE: Another important distinction to be made at this point is that there are at least two classes of phenomena of which human organisms can become aware through direct acquaintance. First, there is our experience of the natural world (that region expressed through the external bodily senses) that is sensed through - direct acquaintance. Perceptions occurring as this category of awareness will be hereafter defined as natural event-

---

[27]John Dewey, Experience and Nature (2d ed. rev.; LaSalle, Ill.: Open Court, 1929).

[28]Herbert Feigl, "The 'Mental' and the 'Physical'," ed. Feigl, Scriven, and Maxwell, II, pp. 377-396.

[29]Ernest Nagel, The Structure of Science (New York: Harcourt, Brace & World, Inc., 1961), pp. 398-446.

components. These components are also directly accessible by other human organisms and therefore qualify as inter-subjectively verifiable event-components. But secondly, there is also another category of event-components not experienced via the external bodily sense, and yet we have direct experiential access to them. These will hereafter be defined as internal bodily event-components. The unique quality of these event-components is that they are directly accessible ONLY to the individual human organism who experiences them; hence, in principle, rendering them inappropriate for direct intersubjective verification. They can, however, be made partially intersubjectively verifiable via the possible modes of overt symbolic expression, but internal bodily event-components are nevertheless only INDIRECTLY accessible to other human organisms.[307] A further crucial distinction should be made at this time, viz., between the objective and subjective psychological forms in which behavior can be systematically (scientific) comprehended. Briefly stated, the objective psychological form for explaining human behavior is that crudely articulated as Skinnerian Behaviorism, for example. The subjective psychological form systematically deals with the intrinsic nature of private events and their coherent and continuous relations with one another as they occur in individual human organisms. This formal characterization of human behavior will be

---

[30]Herbert Feigl, "The 'Mental' and the 'Physical'," ed. Feigl, Scriven, and Maxwell, II, pp. 370-497.

presented in moderately elaborate theoretical detail in "Chapter Three" of this paper. Therefore the view maintained by this writer will be that BOTH psychological modes of conceptualization are necessary for a complete (in principle) explanation of human behavior, and further, that the "content" embodying the subjective psychological form must be presupposed a priori in order to have ANY kind of scientific, interpersonal, or intrapersonal discourse at all!). In the previous quotation, upon which much of my immediately ensuing argumentation will be based, Dewey talks AS THOUGH all of that which he has stated could be fully translated into observable, scientific (objective psychological) terms. Perhaps, he would have even argued that a science of human behavior, such as Skinner's, could enact this methodological explication. In any case -- after several additional clarificational quotations from Dewey in which he shifts his explanatory perspective even a bit more to a mechanistic analysis of intelligent behavior -- we will soon proceed to develop an argument which, hopefully, will reveal what appears to be a LIMITATION, NOT NECESSARILY AN ERROR in the positions of Dewey and Skinner. But first, let us attempt to become a bit more clear on the organic mechanisms that underlie consciously directed intelligent behavior (a characterization that, it seems, Dewey would have deemed consistent with his system).

> But in fact the nervous system is only a specialized mechanism for keeping all bodily activities working together. Instead of being isolated from them, as an organ of knowing from

organs of motor response, it is the organ by which they interact responsively with one another. The brain is essentially an organ for effecting the reciprocal adjustment to each other of the stimuli received from the environment and responses directed upon it. Note that the judging is reciprocal; the brain not only enables organic activity to be brought to bear upon any object of the environment in response to a sensory stimulation, but this response also determines what the next stimulus will be.[31]

... the brain is the machinery for a constant reorganization of activity so as to maintain its continuity; that is to say, to make such modifications in future action as are required because of what has already been done.[32]

What makes it /any given purposive activity/ continuous, consecutive, or concentrated is that each earlier act prepares the way for later acts, while these take account of or reckon with the results already attained -- the basis of all responsibility. No one who has realized the full force of the facts of the connection of knowing with the nervous system and of the nervous system with the readjusting of activity continuously to meet new conditions, will doubt that knowing has to do with reorganizing activity, instead of being something isolated from old activity, complete on its own account.[33]

The development of biology clinches this lesson, with its discovery of evolution. For the philosophic significance of the doctrine of evolution lies precisely in its emphasis upon continuity of simpler and more complex organic forms until we reach man. The development of organic forms begins with stimulus where the adjustment of environment and organism is obvious, and where anything which can be called mind is at a minimum. As activity becomes more complex, coordinating a greater number of factors in space and time, intelligence plays a more and more

---

[31] Dewey, Democracy and..., op. cit., p. 336.

[32] Ibid., p. 337.

[33] Ibid., p. 337.

> marked role, for it has a larger span of the future to forecast and plan for. The effect upon the theory of knowing is to displace the notion that it is an activity of a mere onlooker or spectator of the world, the notion which goes with the idea of knowing as something complete in itself. For the doctrine of organic development means that the living creature is part of the world, sharing its vicissitudes and fortunes, and making itself secure in its precarious dependence only as it intellectually identifies itself with the things about it, and forecasting the future consequences of what is going on, shapes its own activities accordingly. If the living, experiencing being is an intimate participant in the activities of the world to which it belongs, then knowledge is a mode of participation, valuable in the degree in which it is effective; it cannot be the idle view of an unconcerned spectator.[34]

Again, Dewey presents us with a highly perspicacious analysis of organic processes as they have relevance for intelligent behavior, an adjustive, interpenetrative process occurring between organisms and their environments. Equally important, is the fact that human organisms reflect the most highly sophisticated manifestations of what Whitehead would characterize as, concrescent synthesis of organic functional mechanisms (a construct with which we shall become quite familiar during the course of our future discussions). These preceding quotations contain the implicit assumption that all human behavior can be fully explained in terms of scientific functional analysis (or physical$_1$ terms). This tenet, as we have seen, is explicitly proposed in the writings of Skinner. There is the further complication in Dewey's writings, as it has been suggested, that he utilizes

---

[34] Ibid., pp. 337-338.

many mentalistic terms -- terms that refer to behavioral states which could never be scientifically verified through direct observation -- to explain his (and this criticism applies to Skinner as well) "wholly objective" scientific theory for analyzing human thinking-behavior; e.g., 'consciousness', 'wishes', 'conscious deliberation', 'factors surging into conscious recognition', 'mental weighing', etc., etc.

Let us now proceed with a criticism of Skinner's "pure" Behaviorism and Dewey's "alleged" Behaviorism, endeavoring to reveal some of the philosophical difficulties of these "methodological" viewpoints -- particularly with respect to Skinner -- for building a theoretically conceivably complete, exact science of human behavior. The question is raised, Is it possible, in principle, to give a full explanation (or 'description', as Skinner would say) of human behavior without referring to subjective psychological event-components as being, at least in some sense, causally efficacious in producing publicly manifest behavioral responses to antecedent environmental stimuli? For example, at this moment the writer is manifesting relatively neutral overt behavior. By this it is meant that if a group of Behaviorists were observing, and hence, describing the writer's behavior they would make such determinations as: 'eye lids are blinking', 'chest is heaving', 'subject is verbally mute', 'subject is sitting quietly in a chair', and so on. From their direct observational perspective they

could not DIRECTLY take cognizance of the FACT that subjective psychological, causally efficacious THINKING behavior of a highly complex nature was occurring within the organism positioned before their eyes. Granted, they could make educated INFERENCES about the nature of what was being silently (privately) thought by directly observing the numerous books on philosophy and psychology that lay upon the desk near the writer, but nevertheless, this procedure could yield little information about the specific thoughts occurring within the head of the writer to which he has DIRECT accessibility. Furthermore, INFERENTIAL statements about matters of privately accessible factual occurrence are poor alternatives for facts that can be indirectly ascertained merely by asking the subject in question to symbolically report (most commonly through language, for example) on the nature of his inner or private states. But of course it must be realized that in this line of discussion we are criticizing the position of an outdated extreme form of Behaviorism (namely that of Watson); one that was entirely interested in "describing" the empirically determined relationships between stimulus and response events, not in offering causal explanations of these relations. Now, of course, there are more tempered positions (Skinner, Hull, etc.) which admit such behavioral phenomena as verbal reports, but strictly deny that these reports REFER TO corresponding trains of inner, privately accessible events (a parallelism). The writer is in full

agreement with the negation of parallelism stated as such simply because of the fact, for example, that when one is talking aloud before a group of people, one is assuredly not thinking concomitantly of an inner train of corresponding private events; rather, as the "liberal" Behaviorists maintain, the overt verbal reports, the gestural movements, the eyes blinking, etc. DO IN FACT comprise the total behavioral occurrence -- thinking included. But this situation is not at all analogous to the one formerly mentioned where the subject in question was publicly demonstrating neutral behavior, however in addition, was also experiencing a class of behavior -- one of utmost importance -- which was in principle directly INACCESSIBLE to the Behavioristically predisposed onlookers. It is this very frequently occurring and uniquely human phenomenon which must be carefully scrutinized for it is out of this type of behavior that such creative enterprises as writing poetry, building bridges, planning and executing bank robberies, etc., issue. It seems as though these products of human intelligence are something more than the fruits of MECHANISTICALLY "BLIND" /that is, Behaviorists cannot LOGICALLY use non-mechanistic terms like 'mental weighing', 'deliberating', etc., for any phenomena which might have to be considered as, in ANY way, referring to conscious or reflectively conscious states would therefore have to be regarded as mental phenomena, and thereby necessarily considered as causal factors intervening between publicly

accessible stimulus conditions and response behaviors. But since such causal factors are not perceptually accessible for DIRECT intersubjective scrutiny, their admittance into scientific explanation would mean that a Behavioristic methodological maxim would be violated, viz., that ALL publicly verifiable behavioral responses are, in principle, an EXACT function of immediately antecedent environmental conditions AND previously learned behavioral (reflexive) predispositions whose stimulus conditions are also, in principle, capable of direct intersubjective confirmation7 sequences conditioned reflexes in which mental events have no significant causal role. It is for this reason that we should spend time in carefully analyzing a "methodological" viewpoint whose logical consequences necessitate that the 'reflex arc' construct be substituted for what has been traditionally regarded as a causally efficacious mind -- logically speaking, a very nebulous and difficult-to-define phenomenon to be sure. Therefore it would seem only reasonable to reconsider the logical grounds upon which it is alleged that mind can be "short-circuited" from behavioral scientific explanations, before the conclusions of such a questionable view are uncritically accepted.

In a former illustration, this writer has posited a situation in which his behavior was being scrutinized by a group of Behavioristic psychologists. Further, it was said the observers could make intersubjectively valid and reliable DIRECT determinations about their subject's behavior

(defined as 'neutral') from their observational or objective viewpoints. But the difficulty in this analysis was that the subject had been silently (privately) engaging in complex thinking-behavior, the precise nature of which was in no way publicly determinable. Now private thinking of this sort IS undeniably a distinctive form of human behavior, and over and above this "stubborn fact" there is also the fact that the subject in question WAS determining the mode of his thinking. He was causing (in the sense of imposing an individually determined direction) the nature of his thought to be what it was, and it was not the result of any stimulus factors that could have been specified as existing within the immediately antecedent environment. This illustration accentuates the central problem to be faced by a psychological viewpoint which purports to be able, in principle, to COMPLETELY explain, in intersubjectively verifiable language and procedure, human behavior as an EXACT function of operationally defined antecedent environmental (stimulus) conditions as they are significantly correlated with given behavioral responses. As we shall see, it does not increase the tenability of a Behaviorism to admit verbal reports as an additional source of publicly verifiable data, for the central LOGICAL CONFUSION to be reconciled does not involve this issue!

Professor Skinner's argument for a Behaviorism can be stated as follows:

1) For example, if one wants to "explain" why a man is suffering from anxiety -- if we

want to get at the "cause" of the anxiety -- it does no good to seek out "causes" in inner states.

2) "Causes" are to be found in immediately antecedent environmental conditions (that are publicly ascertainable 'anxious' behavior manifestations) and not in inner mental states.

3) Anxiety is a directly observable behavioral phenomenon; the inner state of anxiety is not directly observable, therefore is an inferred event; one that is of little value to a Behaviorism.

4) Thus, if the inner state is inferential and if the "cause" of the anxiety is not to be found among inner states, but rather, in antecedent environmental conditions which correlate significantly with manifest anxiety, then knowing about inner states is of no value at all in explaining the "causes" of behavior.[35]

Here, obviously, Skinner is arguing that it is not one's own private (directly accessible) psychologically MEANINGFUL state of anxiety that causes the anxious manifestations (e.g., trembling, wavering of voice, etc.) directly perceivable by onlookers, but rather it is, for example, the publicly verifiable stimulus-object 'snake' that is placed before a subject's eyes, that causes him to tremble. From this, Skinner maintains that we can purge our scientific explanations of "inner causes". But supposing a psychologist were to introduce a snake into the presence of a subject who, although extremely fearful of snakes, is fast asleep. The Behaviorist would find, of course, that no manifest trembling would ensue; but if the subject was awakened, trembling

---

[35] Skinner, Science and Human..., op. cit., pp. 31-35.

behavior would transpire. What is the issue here? It is that in the former case the subject was NOT CONSCIOUSLY AWARE of the snake's presence, but in the latter instance he WAS CONSCIOUSLY AWARE. In conscious awareness the stimulus-object had SUBJECTIVE PSYCHOLOGICAL MEANING for the subject. This is a much different situation than in the case of a thermostat designed to control an automatic heating system operating necessarily as a direct (mathematically ascertainable) function of temperature variation (under normal conditions). We would regard it as odd to 'ask' the thermostat if it was 'fearful' of an anticipated temperature drop. The illustration, although bordering upon absurdity, embodies the distinction between scientific objects of physics and chemistry, for example, and those of the behavioral sciences. At this point it must, at least, be conceded that involuntary behavioral responses of objects of psychological concern differ markedly from those of the present-day exact sciences; namely, by the nebulously understood phenomenon of consciousness (this statement, of course, is made with specific reference to the "snake" and "thermostat" illustrations).

Let us consider for a moment the whole issue at hand from an exact scientific perspective. Supposing that from the point of view of an extraordinarily sophisticated neurophysiology it was possible to specify ALL of the physiochemical conditions, stated in appropriate scientific language, underlying an individual's subjective psycho-

logical state, 'I feel angry' (a feat which is at present a mere science fiction, although IN PRINCIPLE an eventual possibility). Here it would have to be conceded that there are two logically distinct types of MEANINGFUL statements inherent in this illustration; namely, a scientifically meaningful one, and a subjective psychological one. The reason for this is that the former statement, in its anticipated complex and undoubtedly more rigorous form, does NOT ANALYTICALLY imply the latter type of statement, and vice versa. Rather, the CORRELATION of the two CATEGORIES OF MEANING is NECESSARILY a SYNTHETIC one. Stated differently, by knowing that chemicals C_1, C_2, C_3, for example, were somewhat deficient in the blood of a given subject, we could never infer from strictly this evidence that he was directly experiencing the subjective psychological phenomenon of thirst, for example. This connection could only be established by asking the subject to report on his private bodily states (directly accessible only to that individual) as variables C_1, C_2, C_3 were systematically manipulated. Skinner could quickly reply that we would not need this type of subjective report for making this determination because the subject's manifest behavior could be DIRECTLY observed, and hence 'thirst-behavior' could be imputed to him. This is true to a degree as in the cases of grossly overt states like excessive happiness, sadness, etc., but it must be remembered that LOGICALLY speaking the human phenomenon of thirst, for example, is a subjective psychological state

which must have NECESSARILY been directly experienced by some individual at some time to have become meaningful at all, for the intrinsic meaning of 'thirst' issues from a personal experiential basis. We do not scientifically analyze the human physiology to formulate a meaning that is defined as 'thirst'. Rather, all individual human beings have always experienced the private event 'thirst', but only at a much later stage in the development of man's mentality did some men become cognizant of the fact that the private or subjectively accessible phenomenon, thirst, had a physio-chemical basis. From this it can be more generally stated that in order to have a science of ANY kind AT ALL one must assume <u>a priori</u> that private experiential events are factual occurrences (as everyone, to the knowledge of this writer, would maintain). The reader may enquire at this point about the significance of the writer having proven what most intelligent people take for granted. The issue is this, that if we must presuppose <u>A PRIORI</u> that all modes of inter-subjectively verifiable symbolic expression, and hence, knowledge of varying degrees of certitude as well as opinion, must necessarily presuppose DIRECTLY apprehendable individual experience of the natural world and of one's own subjective states, then it must also be concluded that ALL HUMANLY EXPERIENCED EVENTS (and those that are, in principle, capable of being experienced) -- some of which possess intersubjective as well as merely subjective grounds for verification -- are <u>PRIVATELY</u> (or <u>DIRECTLY</u>) experienced!

This is to maintain no more than the simple fact that if there are phenomena capable of entering into human experience, then an INDIVIDUAL MIND must DIRECTLY experience them. But if this is true, what are we to conclude about the frequently maintained distinction between "public" and "private" events; viz., that public events refer to those natural objects and their relations which are available for direct apprehension by ANY human being via their external bodily senses, and that private events refer to those inner states and relations occurring WITHIN INDIVIDUAL human beings that can, in principle, be DIRECTLY apprehended by ONLY those individuals within whose organism the events occur? We shall see that this distinction between public (physical) and private (mental), until now, held by this writer for ARGUMENTATIVE reasons, contains a fundamental epistemological vagueness which, although subtle, has an extremely pronounded affect on our conception, and thus, theories on the nature of the human mind. Positivists and Behaviorists are frequent proponents of this highly questionable distinction (which in one way or another has been historically made in various schools of empirical philosophy). Also the "mental-physical" dichotomy has been recently articulated by Herbert Feigl in a most illuminating article[36] on the mind-body problem; but here again, it seems that Feigl's view is

---

[36]Herbert Feigl, "The 'Mental' and the 'Physical'," ed. Feigl, Scriven, and Maxwell, II, pp. 370-497.

vulnerable to the same epistemological criticism to be made [although Feigl offers a very fine argument supporting the view that physio-chemical states have only an EMPIRICALLY (not analytically) ascertainable IDENTITY with MENTAL states.7

Now we must attempt to get at the basis of the alleged epistemological vagueness. It is difficult to elucidate this problem for our mentalities have been predisposed to habitually make the mental-physical dichotomy (or even more typically, the mind-body distinction) in our way of intellectually contemplating human behavior. The problematic issue is much better portrayed in "Chapter Three", but for now we must attempt to become clear on this matter in order to prepare the way for future discourse on the nature of subjective psychological behavior. It had been briefly intimated in previous discussion that we could consistently conceive of at least two ways of comprehending statements of MEANING with respect to characterizing human behavioral phenomena. One category of statements encompasses those comprising scientific knowledge claims, with its various criteria for certitude (e.g., that evidence in support of theoretical formulation be available for direct inter-subjective verification to establish the validity and reliability of knowledge claims; that the principle of non-contradiction be observed; that hypothetical-deductive explanations be effected in terms of axioms, postulates, and laws -- preferably as formalized statements -- whenever

possible; and so on), while on the other hand, there is the category of meaningful statements whose primary function is to characterize the subjective psychological, phenomenological states of individual behavior as the EFFECTS of both natural world and internal bodily phenomena ingress into personal consciousness as directly accessible components of consciousness. This is the human state of affairs upon which the aforementioned quotation by Alfred North Whitehead was predicated. This second category of statements (e.g., statements referring to bodily feelings, emotions, and ideational states) are required to coherently explicate the phenomenological contents of individual minds as those contents are continually modified (via reflective conscious INTERPRETATION) by accumulated, integrated learnings. A major point to be made about the intrinsic nature of statements [either silently thought via language or symbolically expressed (thinking-out-loud) for intersubjective apprehension] in this category of MEANING is that coherence in expression (whether silently to oneself or to others) is a basic operational criterion. These statements reflect individual experience as it is during each moment of occurrence. They are ridden with unfactual as well as factual assertions, value judgments, highly charged emotional reports, and so on. Here the obvious distinction to be made is that in the latter category of human articulation the criterion of coherence of expression is the one to which we all adhere spontaneously. But in the former category (where

coherence is still most assuredly a criterion), however, over and above mere coherence there is a highly determined, conscious effort made by those (scientists, logicians, etc.) who are seriously and systematically engaging in generating statements characteristic of this category to construct assertions that demonstrate maximal epistemological certitude. These statements result from a procedure entailing continual logical clarification of roles governing the processes of deduction and inference from which theories and facts are both affirmed and related. These rules also facilitate a multitude of other complex, difficult constructive and clarificational operations. Therefore, as we can easily see, a considerably greater amount of DISCIPLINED thinking is involved in generating scientific statements as distinct from those categorically regarded as subjective psychological.

Now that we have generally distinguished between two separate categories of MEANINGFUL statements (it may be noted here that scientific statements are intended to be "value free" in their exposition of fact and theory, while subjective psychological statements contain those references to directly accessibly inner states including value judgments), we must consider the FRAMES OF REFERENCE from which the two categories of statements are predicated. It is often said that scientific statements (including those of the formal as well as empirical sciences) have "public" grounds for expression and verification, but those that are

subjective psychological have only "private" or subjective grounds, and hence, must be regarded as inappropriate for scientific knowledge claims that demand direct intersubjective confirmation of evidential phenomena. We have seen -- now specifically with regard to our purposes in this paper -- that Professor Skinner has emphatically urged that statements about "inner psychological (causal) events" are to be omitted from a scientific psychology for methodological reasons; namely, that they are irrelevant to an exact science for they refer to causally INEFFICACIOUS epiphenomena (mental events), and so on. But it may be asked, What is the specific nature of the epistemological grounds which have so reverently been regarded as "public", and those apparently disavowed grounds termed "private or subjective"? In analyzing this problem, the writer submits, the central confusion of the "public-private" issue can be resolved. From the above discussion it may initially seem as though there are two distinct FRAMES OF REFERENCE for perceiving and hence making determinations about phenomenal occurrences: one "public" and one "private". In a sense this is correct, viz., in that INDIVIDUALS have direct access to their own inner states while others have only INDIRECT (thereby inferential) access to them, and on the other hand, there are natural world phenomena that are DIRECTLY available to ALL persons via their external bodily senses. But in acknowledging this factual distinction, another very important one, in most cases, goes unnoticed, and hence, is

not critically evaluated for its epistemological significance. It can be readily granted that a "public" (scientific) view of natural phenomena does not have as its frame of reference some type of universal world soul that has a facility for viewing natural world objects in themselves. Obviously "public" events are those natural world phenomena directly intersubjectively apprehended through individuals' external bodily senses; a point that has been repeatedly made. But in all this we may ask, Is it possible to PERCEIVE a natural phenomenon without a human MIND to do the perceiving? Unless we are to admit a world soul or the perceptions of lower ordered organisms, the answer must be emphatically negative, for only MIND-PERCEPTIONS are suitable for subjective psychological statements of MEANING, or those statements of meaning suitable as KNOWLEDGE claims; empirical or otherwise. One may object to this line of reasoning and demand that the definitionally vague term 'mind' be removed from the discussion for other types of more intersubjectively precise hypothetical constructs, such as 'reflex arc', etc., may be used as more suitable alternatives. To this anticipated objection we must remind potential critics of the formerly introduced 'snake illustration' where conscious awareness was an UNAVOIDABLE (hence causal) consideration in yielding 'trembling-behavior' from the hypothetical subject. So that those who are still unconvinced of the necessity of using the term 'mind', the writer will maintain for the moment that mind

can be equated with 'conscious' and 'reflective conscious' behavior. This will undoubtedly be construed by some as, perhaps, replacing one vagary with another. In any case we must proceed with the argument if for no other reason than "faith being higher than reason". Similarly, on the other hand, it would be equally as absurd to speak of having direct perceptual acquaintance with "private" events without presupposing a mind which perceives the phenomena. Thus the common factor which must be PRESUPPOSED A PRIORI in BOTH the cases of "public" and "private" perceptions is AN INDIVIDUAL MIND WHICH DIRECTLY PERCEIVES those perceptual phenomena. It is for this reason that the writer concludes that ALL POSSIBLE HUMANLY EXPERIENCABLE EVENTS ARE PRIVATE EVENTS in that they are ALL EXPERIENCED THROUGH DIRECT ACQUAINTANCE BY INDIVIDUAL MINDS. Apart from these considerations it is meaningless (logically and subjective psychologically) to speak of other types of events (that could not in principle enter into our experiential domain) if we are to regard such discourse as meaningful at all: whether phenomenologically, scientifically, religiously, metaphysically, etc. At this point it is of extreme importance to mention that the basis for a human behavioral model has been suggested, that is, of coneciving mind as standing over against perceptual occurrences, whether the perceptions are DIRECTLY perceived through the external bodily senses or DIRECTLY perceived via internal bodily modes. Stated differently, it is the notion of the wisdom of the past

(occurring as predispositional symbolic learning) as it is SYNTHETICALLY brought to bear upon a present occasion (i.e., contemporary perceptual phenomena, whether issuing from external natural or internal bodily modes) such that the SUBJECTIVE PSYCHOLOGICALLY MEANINGFUL PRESENT is in great part determined by prior learnings. But before we begin to systematically explicate this view (which has a highly elaborate metaphysical basis in the writings of Alfred North Whitehead,[37] and is a view frequently suggested in the writings of various philosophers throughout history) (Also, oddly enough, it is a view espoused, at least, implicitly by B. F. Skinner, although with the crucially important difference that he would omit as causally irrelevant what this writer has designated as 'mind', which necessarily must be regarded to stand over against percepta.) there is still much to be said with respect to the former line of argumentation being developed.

Now that it has been shown that mind (nebulously defined, to be sure, but on the other hand, a factor that must be necessarily presupposed A PRIORI in order to have subjective psychological experience at all) must be assumed to stand over against all directly apprehended perceptions, whether originating from external natural sources or internal bodily sources, what sense is to be made of the "public-

---

[37] Alfred North Whitehead, Process and Reality (New York: Macmillan, 1929).

private" dichotomy which most assuredly does have some merit? We may answer this by again saying that ALL events are private to the extent that their existence, in principle and insofar as they have relevance for ANY MEANINGFUL human enterprise, is contingent upon AN INDIVIDUAL human mind to entertain them. This simply amounts to saying on one hand, that, for example, seeing red flames, hearing melodious tones, feeling the roughness of asphalt, etc., and on the other hand, feeling a pain, thinking of a novel solution for a problem, feeling despondent, etc., all necessarily presuppose that INDIVIDUAL MINDS DIRECTLY EXPERIENCE these states, for the phenomena cannot meaningfully occur as they do apart from individual human beings to directly experience them. Thus, more specifically, the whole concept of an 'event' has to be more carefully analyzed to determine what individuals, IN FACT, experience when they experience natural or inner perceptual phenomena. There are many ramifications to this issue, but at this point let us say that we can again draw upon the aforementioned categorical distinction between subjective psychological and scientific statements. These categorical statements are made with reference to two distinct types of perceptual phenomena; namely, natural world phenomena and internal bodily phenomena. Therefore, there is a CRUCIAL difference in the two statements, 'I see the tree' and 'I feel a pain', in that the LOCATION of the stimulus-object in the former case is in the external natural world (viz., a tree), and in the

latter case the LOCATION of the stimulus-object is in the internal organism of the subject articulating the statement of pain (viz., from a specific bodily mechanism). The conclusions to be drawn from the notion of 'LOCATION' are the following:

1) In both categorical cases the perceptual phenomena were known via direct experience.

2) In both categorical cases an individual mind must be admitted to have had the perceptions; therefore, all events are private in that they are DIRECTLY experienced by INDIVIDUAL HUMAN MINDS. Also there is the obvious sense of 'privacy', in that no other individual human being can experience one's personal experiences.

3) The basic issue of the "public-private" dichotomy is to be resolved in determining the LOCATION of the stimulus-object which gives rise to the perception (or stimulus-object EFFECT), whose source of origin must necessarily be EITHER from the external natural environment or a percipient's internal organism.

4) Therefore in the logical definition of an 'EVENT' there is necessarily implied a TWOFOLD consideration, viz.:

   a) a MIND that perceives perceptions

   b) and the LOCATION of the source of the perception coming to mind.

Thus in the two statements, 'I see the tree', and 'I feel a pain", there are at least two FACTORS in COMMON for each of these distinctly different events: an 'I' (i.e., a MIND) that perceives the 'pain' and 'tree' phenomena; and a stimulus-object LOCATION from which the phenomena issue (the stimulus-object 'tree' located in the natural world, and the stimulus-object 'physio-chemical states giving rise to the pain-perception' located within the bodily organism of the individual directly experiencing the pain).

5) The resolution of the "public-private" problem can be achieved by saying that with respect to ALL perceptions of which human beings can ever, in principle, become aware it must necessarily be presupposed A PRIORI that an individual human mind directly perceived them; therefore, leading us to necessarily conclude that ALL these events are private or mental events. But in saying this we must also necessarily conclude that there are at least two factors to be considered in our concept of mental or private event, viz., that a mind is required to perceive (or stand over against) perceptions, and that the perceptions are a (causal) result of stimulus-objects LOCATED EITHER in the natural world, or in the organism of the percipient whose mind entertains the perceptions. From this, we are led to conclude that the concepts of "public" and "private" verification must necessarily refer to the LOCATION of the stimulus-object which yield EVENT-COMPONENTS (e.g., perceptions of trees, rocks, pleasurable feelings, ideas, etc.); COMPONENTS which, by definition, do NOT comprise a complete mental EVENT, for this would be to exclude reference to the individual mind which directly experiences the EVENT-COMPONENT or perceptions (stimulus-object EFFECTS). Thus the concept of 'EVENT' necessarily implies a MENTAL event in that a mind must be regarded to "stand over against" percepta or stimulus-object EFFECTS that arise from stimulus-objects residing in EITHER the natural world or the internal body of the percipient.

With the above argumentation in mind (literally speaking!), we are now in a position to criticize Professor Skinner's "methodological" viewpoint.

1) Skinner wants to omit statements alleged to REFER to events having components whose stimulus-object location is said to be within the subject's own organism such that ONLY the subject himself has access to the causal state (e.g., 'My SADNESS CAUSED my irresponsible behavior.'). Also he wishes to methodologically omit those statements referring to causal agents which, in principle, by their intrinsic theoretical nature are not directly accessible to either subjects or observers; although trained observers can come to understand the effects of

these causal "entities" indirectly (e.g., ids, superegos, etc.). In each case, Skinner would maintain, the alleged causal agents are, in principle, not directly accessible to Behavioristic observers; hence they are inappropriate subjectmatter for a behavioral science which must ultimately resort to evidence capable of DIRECT intersubjective verification for suitable knowledge claims. Thus, for reasons previously considered, we say that Skinner regards such subjective psychological states as 'sadness', 'desire', 'anxiety', 'thoughts', etc. as epiphenomena which are, to be sure, directly accessible to the subject in question, but are of little value to a Behavioristic psychology as causal agents, for they are not directly verifiable. Also, it will be recalled, since ALL human behavior is an exact function of stimulus and response -- both of which ARE intersubjectively verifiable classes of states -- intervening mental states can be omitted from functional analysis. This is to say that causes for manifest 'irresponsible' behavior, for example, are to be found in the immediately antecedent environmental conditions preceding the 'irresponsible' response-behavior. The data collected from these antecedent causal conditions must, of course, be interpreted in light of the subject's history of relevant learned behavioral (and moreover, reflexive) predispositions with respect to given stimuli.

2) This methodological approach to investigating human behavior CAN legitimately be undertaken (APART from the unwarranted theoretical conclusion that mental events are causally inefficacious epiphenomena, for reasons previously stated), and it is what this writer would define as a scientific objective (as distinct from subjective) psychological approach to studying human behavior.

3) But to say that PRIVATE EVENTS are to be omitted from a Behavioristic psychology on the grounds of being causally inefficacious elements in human behavior is wholly untenable for this is to CONFUSE the logical meaning of 'private event'. Private events must be necessarily presupposed A PRIORI to have human thinking-behavior at all, whether thinking occurs as subjective psychological states consisting of personal values, feelings, biases, emotions; or in the considerably more disciplined subjective psychological form out of

which scientific statements, possessing inter-subjective confirmability, are generated, for example.

4) Thus it cannot be said that private events are not causally efficacious (although it has not been demonstrated at this point HOW they function causally; this is the problem to be confronted in "Chapter Three", and its resolution in part, constitutes the subjectmatter of a scientific subjective psychology) for the phenomenon of intelligent human behavior itself, for example, is a creative product of DISCIPLINED private-event processes.

5) Specifically, all this amounts to saying that Skinner is advocating an objective psychological science of human behavior that admits only those statements into its behavioral descriptions (explanations) REFERRING to those PRIVATE EVENTS of INDIVIDUAL BEHAVIORISTIC OBSERVERS containing DIRECTLY experienced EVENT-COMPONENTS resulting from natural world stimulus-objects (e.g., subject's eye-blinks, tremblings, verbal reports, etc., which, contemplated from the RELATIVE perspective of each Behavioristic observer, become part of the category of natural world phenomena that are intersubjectively confirmable). Thus in propounding this methodological viewpoint, Skinner is necessarily ADMITTING only those statements articulated by individual Behavioristic observers that refer to each observer's own private events having COMPONENTS (perceptions) resulting from natural world stimulus-objects; viz., for example, a subject's VERBAL EXPRESSION, the SUBJECTIVE PSYCHOLOGICAL MEANING of which referred to a stimulus-object NOT DIRECTLY perceivable by THAT (or in principle ANY) Behaviorist (for example, the Behavioristically HEARD verbal expression by the subject that his hands were trembling BECAUSE of the ANXIETY he was DIRECTLY experiencing. Here, the HEARD verbalization CAN be admitted as scientific evidence, but NOT the causal "entity" to which the verbalization is alleged to refer, viz., the INNER state, ANXIETY).

6) Therefore, although Skinner CAN legitimately banish all references made by subjects to "inner causes" and retain only their MANIFEST behavior, he CANNOT, in principle, conclude from this that private events are causally inefficacious for the very possibility of even making Behavioristic determinations about 'someone else's manifest

behavior' presupposes A PRIORI the possibility of INDIVIDUAL BEHAVIORISTS having mental events in that a mind must "stand over against" individual Behaviorists' perceptions of their subject's behavior (perceived as natural world phenomena because of the LOCATION of the stimulus-object in question, namely, the subject is located OUTSIDE the Behaviorists' bodies). To neglect this line of argumentation, thereby falling into a purely epiphenomenalistic view of mental events, would be to necessarily regard human behavior as entirely REFLEXIVE, and therefore, to contemplate behavioral processes on a par similar to 17th century materialistic determinism.

7) From the line of argumentation being developed by the writer, another crucially important conclusion follows, namely, that from the bare Behavioristic observation of 'eyes blinking', 'hands trembling', etc., the INTERPRETIVE INFERENCE (thereby going BEYOND the bare factually perceptual given) that there is MANIFEST (apart from the question of whether the observed subject has the subjectively LOCATED experience of anxiety) 'anxious' behavior does NOT ANALYTICALLY follow! Rather, it is a SYNTHETIC conclusion and it presupposes ultimately that LOGICALLY ONE (and no doubt ALL) individual human being, at least, had the DIRECT subjective psychological experience of anxiety, and took the liberty of subjectively reporting (in some no doubt crude way) the phenomenon to others. This is also an issue with many ramifications and will be given further attention as we proceed with our discussion.

This completes, at least for the present time, our critical analysis of Behaviorism and its views on "public and private events". The enquiry thus far has been difficult and obscure, but at least two things are conspicuously evident as a result. First, as is so often the case, considerations which seen to be initially straightforward frequently contain numerous, subtle implications that, if overlooked, can give rise to very perplexing antinomies; e.g., as in the case of the mind-body problem. This admonition is merely to

reaffirm what has been frequently proven throughout an ageless backlogue of philosophical criticism. Secondly, it can be seen in retrospect that the logical difficulties inherent to Behaviorism are closely related to if not an actual embodiment of the problem of 'philosophical relativity'; or stated more specifically, the difficulties revealed when individual minds begin to systematically take account of the phenomenon of "minds taking account of other minds as well as natural objects".

Some further points on terminological clarification should be made before we move on. Hereafter we shall define objects capable of DIRECT intersubjective verification (viz., objects and their properties and relations LOCATED in the natural world) as 'public event-components' (distinct from the misleading term, 'public events'), and those objects with their properties and relations NOT capable of direct intersubjective confirmation (viz., subjective psychological inner states) as 'private event-components'; e.g., pains, emotions, particular ideas, etc. The term 'private event', as we have seen to some moderate extent, is a far more INCLUSIVE term than private event-component. For example, in the statement, 'I feel happy', the bare feeling of happiness would be a private event-component in the sense that a particular individual at a particular time and place is DIRECTLY experiencing a feeling of happiness in such a way that NO other human being can have precisely THAT experience to which reference is being

made, for to have 'that' experience necessarily implies 'that' individual who generates the statement, "'I' feel happy". On the other hand, with respect to the more inclusive concept of 'private event', the individual when uttering the statement, 'I feel happy', is understanding CONSIDERABLY MORE than merely taking account of a 'happy feeling'. This is to say that the literal words, 'I feel happy' are a great oversimplification of what the individual at THE EXACT time of experiencing the 'happy feeling' was IN FACT experiencing. For example, beyond the clearly articulated recognition of a 'happy feeling' private event-COMPONENT there is a multitude of progressively more subtle (hence, symbolic elements less clearly recognized by the subject of the experience) event-components such as "a concept of 'I'", 'a concept of what it means to have a feeling', 'a concept of qualitatively different feelings', etc., as well as a host of other ramifications that are intrinsic to ANY given moment of subjective psychological experience. This stipulation with respect to the more inclusive, far reaching implications associated with the newly defined concept of 'private event' may appear to the reader at this point to be relatively insignificant because of its rarely emphasized complex, predominately symbolic structure. But the writer submits that it is herein that a penetrating understanding of the LOGICAL FORM of subjective psychological experience is to be discovered. In any case, future investigations will considerably expand the

meaning of this statement; particularly in the next two chapters.

The more general concept of 'stimulus-object' will be defined as the causal agent giving rise to, or is the necessary (but NOT the sufficient condition because of a mind that is required to entertain perceptual occurrences) condition for the perceptual occurrence of public and private event-components (or what we have termed, STIMULUS-OBJECT EFFECTS).

The last point of clarification to be made is that it seems possible to schematically represent some of our previous analysis of private or mental events and their various possible modes for DISCIPLINED thought-behavior in the following hierarchical way:

FIGURE 1

$Level_N$	Formal scientific statements (i.e., mathematical and symbolic logical) with their definitional assertions and procedures subject to the principle of non-contradiction.
$Level_{N-1}$	Rigorously empirically verified statements with theoretical constructs subject to the principle of non-contradiction, and experimental evidence.
. . . . .	
$Level_2$	Opinion statements about various matters based on personal, pragmatic conclusions resulting from NON-methodological acquaintance with reality.
$Level_1$	Statements reporting on subjective psychological states, e.g., feelings, desires, values; any phenomenologically "given" states.

The ENTIRE AREA within the rectangular chart would represent all the possible kinds of assertions that could be made from any particular person's subjective psychological experience at a given time; i.e., private events which must be presupposed A PRIORI in order to have ANY type of thinking behavior at all. Those modes of thought at the lower levels on the hierarchy are characterized by their LACK of cognitive disciplining, while those at progressively higher levels are distinctly characterized by their rigorous cognitive discipline, viz., with respect to specified procedural rules, evidential confirmability, etc.

The lengthy sequence of argumentation contained in this chapter has not been intended by the writer to be an

act of epistemological subterfuge whereby "mind has been deceitfully smuggled, once again, back into psychology and some philosophical camps." Rather it is better to say that mind, as an active agent, functions causally in each of us during every conscious moment of experience throughout our lives; thus it is the FACT of its causally efficacious role, as it is disclosed in our concrete subjective psychological experience of the natural and internal bodily environments, that is frequently overlooked and obscured by certain schools of psychology and philsophy. In the remaining chapters of this discourse we shall endeavor to isolate the categories of perceptual facts testifying to the efficacity of mind, and hence, formulate a theory of mind such that these facts, occurring as concrete experience, can be shown to embody the LOGICAL FORM common to ALL possible subjective psychological experience. If this end can be accomplished, then the principles of a subjective psychology will in great part be provided, thus revealing more clearly certain law-like relations in human behavior, in addition to suggesting many novel modes for experimental research.

CHAPTER II

THE BEHAVIORAL MODEL

Section One

Essentially the basic argument of the last chapter was as follows:

a) We cannot exclude private or mental events from the realm of scientific behavioral analysis (either in an objective or subjective psychology) and therefore conclude that all behavior is ultimately "blindly" (mechanically) reflexive in the sense that resultant human behavioral responses are an EXACT function of antecedent environmental conditions, hence rendering inner mental states epiphenomenalistic, for the very POSSIBILITY of ANY methodological and/or rationally coherent enterprise must presuppose A PRIORI the causal efficacity of mental states.

b) Thus mind was metaphorically conceived as "standing over against" perceptual phenomena which are capable of occurring in two categorically distinct ways: as perceptions occurring subjective psychologically as stimulus-object EFFECTS issuing from stimulus-objects LOCATED in the external natural world, and as perceptions occurring subjective psychologically as stimulus-object EFFECTS issuing from stimulus-objects LOCATED in the internal organism of the individual percipient himself.

c) This amounts to saying that to conceive of an individual having perceptions, and hence executing complex intelligent behavioral operations WITHOUT a consciousness to "stand over against" the perceptions (i.e., to DIRECTLY apprehend them), leads to complete absurdity.

d) More specifically, mind has been defined, for discursive purposes at this point, as conscious awareness and reflective consciousness awareness (thought critically taking account of previously

experienced thought, entailing the utilization of former symbolically disciplined experience to constructively enhance the meaning of contemporary thinking). To deny the efficacious role of consciousness and reflective consciousness, in the sense that they are necessary factors intervening between antecedent stimulus conditions and resultant behavioral responses, is to lead to logical contradiction. However, Skinnerian Behaviorism demands that manifest human behavioral responses be regarded, in principle, as an EXACT function of intersubjectively verifiable antecedent environmental conditions. This is to say that what are regarded as inner mental events are causally inefficacious "biproducts" or epiphenomena resulting from stimulus-response actualizations. In this way it is alleged that an entirely objective behavioral science can be established, for all stimulus and response phenomena are intersubjectively verifiable. But since human conscious and reflective conscious awareness are NOT directly intersubjectively ascertainable, and yet, their causal efficacity in the production of human behavior cannot be denied, it follows that Skinnerian Behaviorism, on methodological grounds, must purge (as it in fact does) statements referring to inner states from its scientific domain; however, contrary to its conclusions, it can thereby provide only a PARTIAL account of human behavior. The conclusive refutation, then, of the possibility for Skinnerian Behaviorism (and hence ALL Behaviorisms) to provide, in principle, a COMPLETE scientific exposition of human behavior lies in the fact that a MIND must be presupposed A PRIORI to stand over against percepts originating from stimulus-objects LOCATED in either the external natural or internal bodily environments. Behaviorism cannot however, in principle, incorporate statements into its system referring to percepta originating from internal bodily regions for these data are not DIRECTLY available for intersubjective verification. But the obvious fact of the matter is that internal percepta, capable of DIRECT verification ONLY by those individual percipients within whose organism the perceptions arise, include such indubitably existing phenomena as bodily feeling, emotions, and most important, ideational processes. Behaviorism's attempts to avoid this difficulty by restating such "alleged" internal phenomena in terms of operational definition whose evidential grounds are commensurate with its methodology.

However, the limitations of this endeavor can be easily exposed by pointing out that statements referring to subjective psychological experiential states cannot be ANALYTICALLY DEDUCED from their operationally defined, directly intersubjectively verifiable counterparts. Thus on logical grounds this is to establish the certainty of two distinct psychological domains: one which manifests itself in the same way as any natural phenomena and is thereby available for direct intersubjective scrutiny; and the other which refers to phenomenal states directly accessible to ONLY those individuals within whose bodies the perceptual phenomena occur /the inability to establish an analytical (logical) identity between the two distinct psychological realms will be reconsidered in greater detail as we proceed with our discussion/. The final conclusion to be drawn from the lack of analytical equivalence between the two behavioral domains is that, since subjective psychological behavior is in great part thinking-behavior, it must be conceded that BEHAVIORISM -- if we are to regard IT as a product of intelligent, reflective thinking -- must ITSELF presuppose A PRIORI those subjective psychological states which it wishes to purge from its enquiries in order to be an active scientific enterprise; unless, of course, Behaviorists are willing to also maintain that their experimentally derived fruits are products of mere REFLEXIVELY executed behavioral efforts!

The distinction was also made in the former chapter between the possibility of an objective and subjective scientific psychology. The former, which is the currently established discipline of Behaviorism, deals with human behavior purely as it DIRECTLY APPEARS or is PHENOMENALLY "given" as EXTERNAL BODILY PERCEPTIONS OF INDIVIDUAL BEHAVIORISTIC OBSERVERS. Therefore, in this "methodological" (in fact, theoretical) scheme, reference to inner, not DIRECTLY perceivable "causes" must be omitted from their behavioral (functional) analyses. But, as it was argumentatively demonstrated by the writer, such inner causes (e.g., private event-components such as

'my PAIN caused me to shout', or 'my IDEA of righteousness prohibited me from engaging in such actions') do, in fact, influence resultant behavior. The argument underlying this position was essentially that even a logically possible COMPLETE physio-chemical explanation (stated in appropriate scientific terms) of a particular neurological state, cannot, in principle, ANALYTICALLY contain the concept, 'I feel angry' (a directly accessible subjective psychological state), for example, because the LOGICAL MEANING of the two states of affairs involves a SYNTHETIC "leap" (they are not logically identical with one another in the sense that one statement contains DIFFERENT information than the other), therefore the correlation (to be established by an extremely advanced neurophysiology) must be established EMPIRICALLY (see Feigl's article[38] where he argues to the same conclusion, only from a different frame of reference).

Stated differently, Dewey's, and without question, Skinner's explanation of thinking behavior basically yields cause-effect, functional explanations. However, cause-effect explanations do NOT explain the intrinsic nature of subjective psychological MEANING DIRECTLY experienced by individuals at any given temporal duration who demonstrate the manifest behavior available to Behaviorists (this holds true even if we consider a less extreme illustration than the one suggested by the writer, where he was being

---

[38] Herbert Feigl, "The 'Mental' and the 'Physical'," ed. Feigl, Scriven, and Maxwell, II, pp. 370-497.

directly observed by a team of Behaviorists who had direct access to his manifest behavior, but not silent thinking behavior). To know what a given thought 'WAS A FUNCTION OF' (stated in appropriate physio-chemical scientific terms) DOES NOT explain the INTRINSIC SUBJECTIVE PSYCHOLOGICAL MEANING of the thought phenomenon; it only (and in saying this the writer does not, in the least, wish to diminuate the vast significance of this form of explanation) explains HOW a thought can occur as it does (in principle, this IS possible) and NOT the SUBJECTIVE MEANING of the thought phenomenon in itself. Granted, a trained Behavioristic observer can hear and understand to some degree (and in many cases even better than the individual EXPERIENCING the private state) the verbalization ABOUT the subjectively experienced particular state, and so on, but the observer CANNOT, in principle, HAVE "MY" directly experienced state. Even if the functional analysis is considerably more complex and systematic (and it would be) than the subject's own description of his inner state, it is, nevertheless, NOT LOGICALLY IDENTICAL with the SUBJECTIVE PSYCHOLOGICAL MEANING that is directly accessible to the subject experiencing it. In proving these arguments, it goes without saying that the very possibility of human consciousness is contingent upon an extraordinarily large number of integrated organic functions which, in effect, provide the necessary conditions for conscious and consciously reflective behavior.

Stated still differently, medical science explores the

organic basis of pains, for example, BECAUSE there ARE subjective psychological states of pain directly experienced by individual human beings (among other reasons, of course). Thus the occurrence of human pain prompted (that is, in a sense, caused) the development of the science of medicine. Furthermore, the science of medicine was created by intelligent, CONSCIOUSLY REFLECTIVE (and therefore necessarily at least, AWARE; hence awareness must be presupposed A PRIORI for ANY thinking behavior at all) individuals whose knowledge, because it was in disciplined (systematic) SYMBOLIC form, could be personally utilized and intersubjectively understood, and therefore shared. All this was NOT a result of purely "blind", reflexive behavior -- a position which Skinner must necessarily maintain if we are to understand his words for their exact meaning --; rather, another factor has entered the "causal scene", namely, CONSCIOUS REFLECTION. Thus if consciously reflective behavior is necessary for the very possibility of high-ordered thinking behavior, then this behavioral realm is open to scientific investigation even though consciously reflective behavioral processes are NOT DIRECTLY available for scientific (intersubjective) scrutinization (but ARE DIRECTLY accessible to the subjects which can be used for controlled experimentation). Therefore behavioral scientists will have to formulate hypothetical constructs designed to represent the FORM in which subjective psychological events must necessarily occur, and then utilize

various mathematical and statistical procedures in conjunction with key experiments (whose evidential basis is available to DIRECT intersubjective verification) for proving or disproving given theoretical constructs. It is in this type of procedure that a subjective psychological science may be grounded. The objection may be raised that this procedure would seem methodologically inappropriate because of the logical impossibility of direct intersubjective accessibility of inner states by observational scientists (for Behaviorism does not operate under this limitation); but we must quickly recall that the science of physics, for example, is not, by any means, a "Behavioristic" one in that there are numerous hypothetical (hence causally efficacious) constructs (e.g., light waves, atoms, etc.) which are operationally used with extraordinary utility without ever having been directly intersubjectively observed. In fact, a subjective psychological science has the advantage that its objects of scientific enquiry (viz., the subjects themselves) can provide direct testimony to their dynamic internal states when subjected to controlled experimental conditions; an advantage that is not possible in all other sciences.

It will be our task, then, in this chapter to outline a mechanistic model which this writer regards as suitable (i.e., free from any reductionistic constructs) to meet the immediate needs of both an objective and subjective psychology. Many of the features of the model to be proposed are

suggested in the writings of Alfred North Whitehead, Ernst Cassirer, John Dewey and B. F. Skinner. It would be much too cumbersome to designate which portions of the model were suggested by each theorist, thus the responsibility for this associative task will be left to the reader. We will begin to develop the constructs of this model by initially analyzing the concepts of 'consciousness' and, particularly, the mechanism of 'reflective consciousness'; and then progressively work toward a comprehensive behavioral model for conceiving individual (and, if the principles are extended, group) behavior as it occurs within given environmental contexts.

As we proceed in this paper, it should be kept in mind that terminological definitions will acquire meaning gradually, in that the writer will successively qualify "key" terms (as in the case of the definitions of 'public' and 'private', for example) that are initially formally stated. Also, the over-all context in which the terms are used will, further, suggest (implicitly) more universal meanings to given terms as one ponders them in various contexts. This is precisely the case with the concepts of 'consciousness' and 'reflective consciousness'. Some moderate attempt at defining these terms has been made (viz., in roughly equating them with mind), and we will again attempt to render their meaning more precise and comprehensive. In any case, the meaning of the concepts must be pondered within the contextual framework of the model to be proposed -- even

though, in this chapter, the concepts are defined, essentially, in mechanistic terms.

Section Two

Let us begin by maintaining that consciousness (as it has already been said) must at least be equated with awareness. Awareness is a phenomenon having many degrees of subjective intensity. For example, one can momentarily be aware of the presence of a 'tree' and then turn one's attention to some other matter, hence forgetting the experience of ever having seen the 'tree'. On the other hand, we have deeply profound awarenesses. For example, there are the complex experiences of 'feeling fully reconciled with life'; 'a deep satisfaction resulting from the way that one is leading one's life (a momentary awareness to be sure)', or even the higher-ordered awareness of the "I-thou", articulated by Buber.[39] In any case, intensity of awareness can be comprehended as occurring on a continuum, whereby the intensity of understanding a given stimulus-condition indicates the degree of an individual's subjective psychological awareness of a given object of concern. Thus if awareness is to be roughly equivalent with consciousness, it can be said that consciousness ranges in its level of understanding from bare sensory perception to (for example) "Platonic insight". Usually, however, we think of conscious-

---

[39] Martin Buber, I and Thou (2d ed. rev.; New York: Charles Scribner's Sons, 1958).

ness as merely "taking account" of something. For argumentative purposes, at this point, awareness or consciousness will be defined as minimally taking account of or cognitively acknowledging the presence of an object of concern; e.g., a tree, a noise, a pain growing more intense, etc. /The perceptions in this case are event-components, keeping in mind our twofold way of characterizing all humanly perceivable events: namely, there is a "something", of which an individual is conscious or aware (an event-component), that issues from (a necessary ASSUMPTION that must be posited in order to have science at all) a stimulus-object; and on the other hand, there is a mind (a consciousness), that (it must necessarily be admitted) HAS the perception. Also it will be recalled that stimulus-objects, OF WHICH WE DIRECTLY EXPERIENCE THE EFFECTS (viz., as perceptions), have two possible sources of LOCATION: the external natural world, and the internal organism of the perceiver. Again, it is crucial to note that we directly experience the EFFECTS of stimulus-objects (which ARE event-components in our consciousness), for to directly experience a stimulus-object in ITSELF would necessitate that the percipient must BE that stimulus-object; e.g., a rock, a physio-chemical state corresponding to a pain or an idea, another mind -- all circumstances that lead us to logical absurdity. Furthermore, the concept of stimulus-object is not constrained to tangible and "intangible" objects as such (e.g., stones, organic mechanisms that yield ideational

event-components, ideas, etc.). It may also characterize PROPERTIES of and RELATIONS among entities which we directly experience through internal or external perceptual modes (e.g., the REDNESS of a rose, an object BECOMING warmer, one object PASSING another, an INTENSIFYING emotional state, etc.). The above distinctions are not meant to suffice as adequate expositions of the complex issue of stimulus-objects and their effects, but rather, merely serve as an introduction to a more comprehensive analysis that will be presented in a future chapter.7. Therefore, if consciousness refers to the phenomenon of merely "taking account of" something, this must be regarded as entailing some minimal amount of thought-behavior. Form this, the concept of reflective consciousness follows, defined as the phenomenon of THOUGHT CRITICALLY ANALYZING FORMERLY EXPERIENCED THOUGHT. Thought, as it has intrinsic MEANING from a subjective psychological perspective /one that is logically distinct from listening to the manifest expression (if any) of subjective psychological thought-behavior, or from a content analysis of (let us say) a verbal report articulated by a given subject7, seems to be the cumulative synthetic product (at a given point in time) of a long-termed (antecedently initiated), reflectively disciplined process involving innumerable learned (ideational) associations that have been integrated into an overall, dynamically operating cognitive system capable of being activated by a large number of qualitatively diverse stimulus-conditions. Thus the

production of a given thought at a particular time is, in a very definite sense, an embodiment of formerly acquired relevant wisdom. This is to say that an indefinitely large number of previously learned associations [some of which we recall through a consciously reflective effort, while the majority are either reflexively learned or preconscious in the sense that they have been so thoroughly habitually learned that we cannot recall the original experiential circumstances under which these early learnings occurred (except in some cases by hypnosis); many of which we undoubtedly found to be difficult at the time, but with increased maturity, these basic tasks are spontaneously effected] can be, in a very short time, synthetically brought to bear upon a given contemporary stimulus-occasion. An entire synthetic configuration of ideational propensities, possessing a profound interrelationship with one another, can often be delivered to a contemporary occasion (i.e., reflexively) in a moment's notice. Therefore, for example, a man's comment on the theory of relativity -- an action requiring considerable antecedent educational preparation -- embodies within it (as subjective psychological meaning) AT THE MOMENT OF EXPRESSION, perhaps years of accumulated, integrated wisdom explicitly and implicitly delivered within the comparatively small number of linguistic symbols required to verbally express the comment. This is truly a remarkable phenomenon, but one executed with ease by typically intelligent human beings. It is in this way that THREE time dimensions are

synthetically actualized in one present occasion; viz., the wisdom of the past is embodied within a contemporary verbal utterance, for example, and in this verbalization lies the predispositional groundwork for the next (i.e., future) successive verbal symbol to be articulated by the same person. It is only in the phenomenon of MIND that such an ontological possibility can be repeatedly actualized. It is this phenomenon that we shall subject to intensive analysis throughout the remainder of this paper, for these types of issues are the rightful subjectmatter for a subjective psychology.

Heretofore several implications inherent to the concept of consciousness have been explored. The phenomenon of reflective consciousness, over and above that of consciousness, involves (as we have formerly said) the process of THOUGHT CRITICALLY ANALYZING FORMERLY EXPERIENCED THOUGHT. This notion presently, however, suggests many more ramifications than when it was originally introduced because of our brief discussion on how the wisdom of the past can be brought constructively to bear upon present occasions in producing ideational states, and thereby, prepares the way for future cognitive activity. Reflective conscious thinking, then, is the phenomenon of thought turning analytically upon itself in an attempt to generate novel, more profound understanding. The terms used to introduce the concepts of consciousness and reflective consciousness have been occasionally metaphorical, for we have not yet

pursued our investigation in sufficient depth to have developed more precise terminology. This task will be a major objective in our analysis of mind. The definitional terms used to achieve this end must be 'cybernetic' because of the vast number of organic mechanisms, and hence, physio-chemical and mental processes involved in producing human behavior. A quotation from W. Ross Ashby illustrates this point when he says

> ... [cybernetics] offers a single set of concepts suitable for representing the most diverse types of systems. Until recently, any attempt to relate the many facts known about, say, servo-mechanisms to what was known about the cerebellum was made unnecessarily difficult by the fact that the propensities of servo-mechanisms were described in words redolent of the automatic pilot, or the radio set, or the hydraulic brake, while those of the cerebellum were described in words redolent of the dissecting room and the bedside -- aspects that are irrelevant to the SIMILARITIES between a servo-mechanism and a cerebellar reflex. Cybernetics offers one set of concepts that, by having exact correspondences with each branch of science, can thereby bring them into exact relation with one another.[40]
>
> The second peculiar virtue of cybernetics is that it offers a method for the scientific treatment of the systems in which complexity is outstanding and too important to be ignored. Such systems are, as we well know, only too common in the biological world![41]

Thus we will have occasion to develop a small number of theoretical terms (as it has been demonstrated in terms like stimulus-object, stimulus-object effect, event-component, etc.) carefully defined to portray the SIMILARITIES in

---

[40]W. Ross Ashby, An Introduction to Cybernetics (New York: John Wiley & Sons, Inc., 1963), p. 4.

[41]Ibid., pp. 4-5.

functioning among indeterminately numerous and complex human organic processes; processes which can in principle be explained (but only to a limited degree, as it shall be later argued) in mechanistic biological terms (See Ernest Nagel's arguments for mechanism in biology.[42]).

Again, it can be said that the ideational product of the reflective thought process is an intrinsically subjective psychological one, therefore revealing itself as directly accessible in its entirety to only the individual who is engaged in reflecting. This directly accessible 'meaning' can be rendered intersubjectively verifiable only when it is manifestly expressed in a symbolic mode (e.g., spoken verbalizations, written words, mathematics, art, music, etc.). Frequently, what has been defined as subjective psychological meaning may have (and often does have) many accompanying objective psychological manifestations. Also it must be admitted, as a result of the lines of argumentation presented heretofore, that the writer has given no reason for any reader to conclude that silent reflective thinking is to be regarded as what Gilbert Pyle has termed "ghost-in-a-machine" phenomena.[43] It is perfectly consistent to maintain that silent reflection occurs via the same linguistic symbolic medium as does "thinking-out-loud" (which is, conversely, directly intersubjectively verifiable).

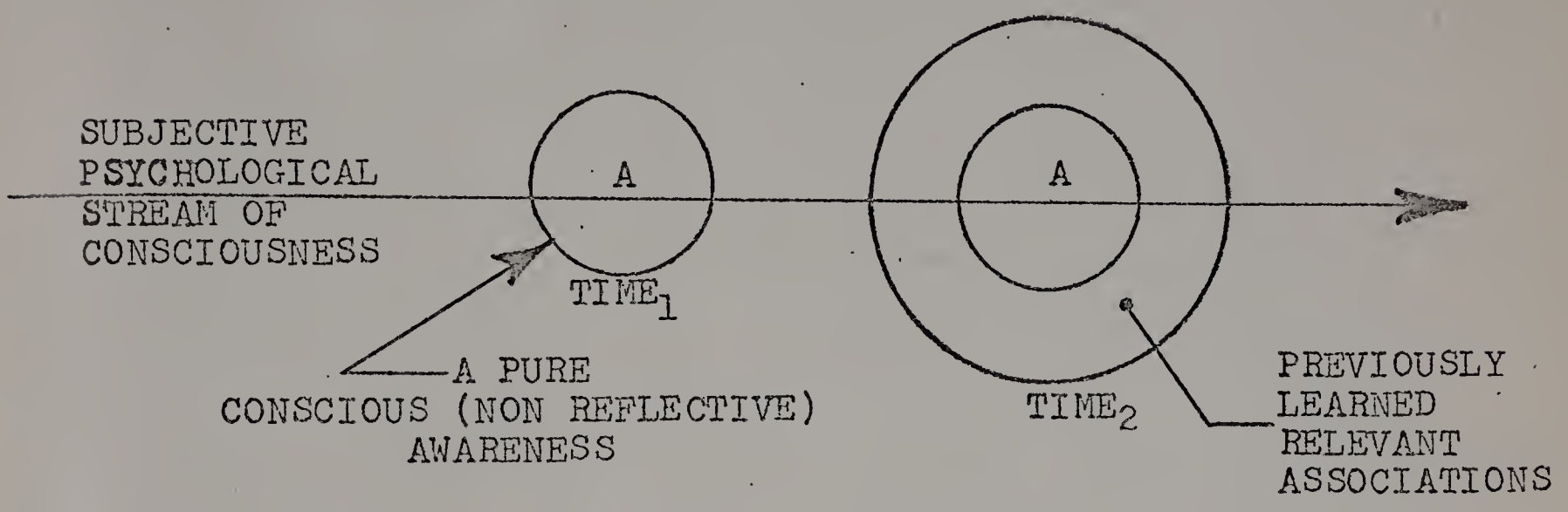
---

[42]Nagel, op. cit., pp. 398-446.

[43]Gilbert Pyle, The Concept of Mind (New York: Barnes & Noble, 1964).

Now let us diagramatically represent a basic principle involved in the concepts of consciousness and reflectively conscious thinking-behavior.

FIGURE 2



Event 'A' (necessarily representing both a perceptual event-component AND a mind which HAS the perception) at $time_1$ represents an immediately (conscious) experienced event, i.e., non reflective behavior, of an individual who has just had a subjective psychological thought ('I feel angry', for example). The organic structure of the human organism is such that it enables the organism to HAVE conscious awarenesses, and more remarkably, the organism can recall having had former awarenesses; and even beyond this, the organism can synthetically utilize previously acquired wisdom (a term implying constructive cognitive integration) in conjunction with present perceptual awarenesses to transcend contemporary levels of understanding. Therefore, event 'A' at $time_1$ represents a temporally antecedent condition of mere

conscious awareness, and the successive condition, at $time_2$, is that of reflective consciousness. In the latter cognitive act, where the organism is constructively recalling having directly experienced event 'A' at $time_1$, more complex ORGANIC as well as ideational processes are involved, for it entails bringing to bear those previously learned relevant associations upon the event-component being contemplated; viz., event 'A' at $time_1$. This is essentially the reflective process: where thinking-behavior is implemented to analyze the implications of previously experienced thinking-behavior. The graphic illustration is meant to merely demonstrate the principle of reflection in its barest form, and is not intended to be an exhaustive exposition of the phenomenon.

It has been a major tenet of this paper that ANY mode of intersubjective communication (and thereby any knowledge-claim statements), regardless of how rudimentary or sophisticated its form, must necessarily be contemplated as having its ultimate basis in the private or mental events of INDIVIDUAL HUMAN ORGANISMS (and this is to be presupposed A PRIORI for the very possibility of any kind of human thinking at all). Our position, as stated heretofore, has been difficult to intuitively comprehend, therefore, rather than attempt to (at this point) reiterate our views in more simple terms, let us defer this task to "Chapter Three". To be adequately prepared to accomplish this end, many expository remarks have yet to be made. The reason for

raising the issue at all is to reconsider the NECESSITY and FUNCTION of symbolism as a means to execute BOTH INTER-SUBJECTIVE and INTRASUBJECTIVE thought. When we communicate with others, we must necessarily rely upon symbolic media, and conversely, when we communicate with ourselves (silent conscious and consciously reflective thinking-behavior), its possibility is also grounded in symbolism (the most common forms of which are language -- written, spoken and silently thought. Meaning of any kind is ultimately grounded in individually actualized symbolic thought, whether the symbols are embodied in "mind" or "matter". Libraries are repositories for symbols embodied in "matter"; symbols which have no meaning whatsoever until a human mind is brought to bear upon them. This involves both imputing subjective psychological meaning to the symbols, and reciprocally having meaningful ideational associations stimulated by the materially embodied symbols (from this perspective, the symbols function as stimulus-objects, but from the standpoint of subjective psychological experience, they are experienced as stimulus-object effects or event-components). But oddly enough brains, like libraries, in a very broad sense are material objects, and similarly, have a capacity for storing symbols. However, brains think and libraries do not. We may wonder therefore, apart from obvious structural differences, what unique modes of behavior are demonstrated by minds rendering them distinct entities from libraries (which merely endure as relatively permanent

objects) or other material objects. An extremely important initial distinction in accomplishing this end is that the very CONCEPT of 'library', for example, (or any other intelligible object for that matter) is UNTHINKABLE without human minds to initially conceive of it as a conceptual entity, and then proceed to provide the concept with a physical counterpart. In any case symbolic behavior is the essence of subjective psychologically meaningful behavior, and consequently, must be subsumed to careful analysis in this paper.

In formulating a concept of mind we will place primary emphasis upon analyzing the subjective psychological STRUCTURE of linguistic symbols; however, the theory to be propounded appears generally applicable to all types of symbolic expression. The questions, What do symbols REPRESENT?, and secondly, What is the INTRINSIC nature of symbols? must be considered in some detail. These questions yield highly speculative answers, for little has been offered by interested theorists that could qualify as even a minimally satisfactory comprehensive theory of linguistic behavior; hence rendering the problem very indeterminate at this time. The theory to be briefly introduced by the writer is primarily suggested in the writings of Professor Ernst Cassirer.[44, 45] Professor Cassirer's writings on this

---

[44]Ernst Cassirer, An Essay on Man (New Haven: Yale University Press, 1965).

[45]Ernst Cassirer, The Philosophy of Symbolic Forms, Vols. I-III (New Haven: Yale University Press, 1965).

subject are unusually penetrating (both with respect to scholarly and imaginative presentation). However, the writer has interpreted some of these writings in light of the general theory of human behavior expressed in this paper; consequently, the reader should not be surprised if Cassirer's views have been subjected to a certain amount of modification (although, the writer has endeavored to minimally deviate from Cassirer's theory of symbolic behavior).

Since the ability to use linguistic symbols is essentially developed at a relatively early age, the theory to be presented refers primarily to the early childhood years. Although there are many empirically verified studies on symbolic development [as it is readily apparent in merely a causal review of Professor Cassirer's three volumes, entitled the Philosophy of Symbolic Forms (not even to mention innumerable other references on this topic found in books and journals)], facts alone are relatively meaningless unless associated with one another within a comprehensive theoretical framework (actually one may legitimately argue -- as this writer will -- that facts considered in themselves have little utility unless empirically ASCERTAINED within the context of a clearly specified theory). Further, there are an indefinite number of theories that can logically "fit" given groups of facts. Particularly with respect to various theories of linguistic development and usage, it seems evident that nearly all of those presently regarded

as being useful are in fact founded upon rather naive epistemological grounds (e.g., associationism, operant conditioning, etc.). This point can be easily comprehended by reading Cassirer's chapter on "LANGUAGE" in his book, An Essay on Man.[46] Also this whole issue is masterfully made evident in the first chapter of his earlier work, Substance and Function.[47] As a result, the writer feels justified in presenting (in very broad terms) an outline of a general theory of symbolic behavioral development, for after having revealed at least the logical possibility of a subjective psychological science, new theoretical constructs are needed to both accentuate the plausability of such an enterprise, and serve as operational instruments for methodological enquiry.

Section Three

Let us begin by saying -- with respect to the two questions: What do symbols REPRESENT? and What is the INTRINSIC nature of symbols? -- that language (and in fact all symbolic expression) develops out of early adjustive behaviors executed by individual human organisms as they learn to meet the demands of their environments, and later, through ACTIVELY exploring various comprehensible dimensions of these environments. From a subjective psychological

---

[46]Cassirer, An Essay..., op. cit., pp. 109-136.

[47]Ernst Cassirer, Substance and Function (New York: Dover, 1953), pp. 3-26.

perspective, at early stages of behavioral development, this amounts to saying that human organisms (because of their structural nature) are able to ORGANIZE, CLARIFY (in the sense of subjecting personal behavioral modes to functional discipline), and later, COMMUNICATE (SYMBOLICALLY) the nature of primordial (and thereby INTENSELY FELT) EMERGENT EMOTIONAL FEELINGS. At progressively later stages in infantile cognitive development there is a gradual shift in emphasis in which organisms ORGANIZE, CLARIFY, and SYMBOLICALLY REPRESENT as COMMUNICATION, (directly) clearly experienced and qualitatively more sophisticated EMERGENT ideational states, while correspondingly less behavior is executed representing the nature of vague internal emotional percepta (a phenomenon which, as it will be seen, has both positive and negative implications for the well-being of human organisms). In this process of cognitive or symbolic development, human organisms increase their survival capacities by more effectively maintaining what is essentially an interpenetrative relationship between organism and environment. At higher levels of development, the human organism adopts a progressively more ACTIVE approach to learning efficacious behavioral modes for increasing the frequency of qualitatively more desirable subjective psychological experience. Intellectual maturation consists, obviously, of linguistic acquisition, and is utilized facilitatively as a principal means for promoting human intelligence. The writer maintains that words are learned behaviors --

behaviors that become thoroughly habituated -- which, in effect, "tag" those stimulus-object EFFECTS (whether issuing from internal or external environmental LOCATIONS) whose nature has been REPRESENTED by particular linguistic universals (whether this is accomplished by means of operant conditioning, etc., is not a matter of concern to us at this time). The point to be made, however, is that ULTIMATELY the meaning and significance of language is grounded in individual subjective psychological experience; similarly at very early ages, presymbolic behavior issues directly from organic bodily and undisciplined emotional feelings. At this level, bare symbolically undisciplined consciousness is BEING-AS-IT-IS-COMPREHENSIVELY (hence undifferentiatedly) FELT, both as emotion and organic bodily feeling. Stated differently; consciousness is that dimly illuminated subjectively experienced focal point into which the relevant effects of inner and outer environments ingress, hence gaining unique actualization as unsymbolized subjective psychological experience within the organism of human beings. All more sophisticated conscious experience, including the supreme achievement of reflective conscious thinking, entails an extraordinarily complex, lengthy program of progressively imposing SYMBOLIC DISCIPLINE (involving learning words, modes of conceptual thinking, grammatical rules, etc.) upon unwieldly, sporadic emotional feeling such that human behavior is rendered intelligent by proceeding through the stages of higher-grade emotional

feeling, then of conscious ideation, and finally to the paramount level of reflectively conscious ideation where, ideally, a delicate synthetic balance is achieved between high-grade emotional and ideational feeling. In this, highly flexible symbolic units, demonstrating a sophisticated rational structure (together yielding a commensurately profound quality of meaning) are capable of accurately representing subtle features of complex reality as their effects emerge in human organisms in the form of mature perceptual experience. The many ramifications of the subjective psychological phenomenon 'experience' (many aspects of which are capable of symbolic representation by critically reflecting upon its distinguishable dimensions) are, paradoxically enough, rendered more determinate, and yet, obscured by the explicative device that permits the possibility their elucidation (as thought). This is to say that symbols (primarily linguistic) "stand between" man and the immediately revealed external natural and internal bodily worlds as a "filtrative screen" representing direct experience in terms of those elements that are of greatest relevance to the percipient, while the extensive concrete subtlety of the present, fleeting moment is lost. Therefore, even the most potently meaningful symbolic representations cannot communicate the full richness of qualitatively mature, direct experience. At best, the deceptively complex immediate experience can only be partially expressed by those individuals whose organisms entertain such occurrences.

Even in the relatively typical experience of consuming a steak, for example, whom amongst us would attempt to exhaustively linguistically characterize the many intimately pleasurable ramifications of this experience and think, as a result, that the verbal description of the experience adequately portrayed the original subjective intensity of the occasion?

The theory of symbolic development being purported, then, regards intelligent thinking as a very high-ordered behavioral process that gradually emerges out of originally unorganized, randomly occurring emotional feelings that are thereafter progressively transformed into symbolically rational behavior. The function of language in all this, as well as other modes of more primitive symbolism, is to gradually organize and explicate primordially occurring internal and external perceptions by assigning to their many directly accessible aspects, intersubjectively agreed upon linguistic symbols in order to render those meaningful experiential components determinate, and hence, available for future reference in instrumental usage.

Section Four

Now that a very general outline of a theory of symbolic development has been briefly introduced -- in terms that are unquestionably ambiguous -- let us consider some of the EVIDENCE that would seem to be compatible with such a theory. An exhaustive exposition of an appropriate evidential basis would take us far afield from the original line of

discussion, therefore primary reference will be made to the relevant works of Ernst Cassirer[48, 49, 50] which contain a wealth of empirical studies regarding this matter. Thus in saying this, the writer does not feel that his views are importantly incompatible with those of Cassirer's; specifically with respect to his theory of symbolic development and its subsequent relevance for a concept of mind.

We will begin our evidential enquiries by considering a quotation from Cassirer where his general impression of contemporary psychology is expressed.

> Few modern psychologists would admit or recommend a mere method of introspection. In general they tell us that such a method is very precarious. They are convinced that a strictly objective behavioristic attitude is the only possible approach to a scientific psychology. But a consistent and radical behaviorism fails to attain its end. It can warn us of possible methodological errors, but it cannot solve all the problems of human psychology. We may criticize or suspect the purely introspective view, but we cannot suppress or eliminate it. Without introspection, without an immediate awareness of feelings, emotions, perceptions, thoughts, we could not even define the field of human psychology. Yet it must be admitted that by following this way alone we can never arrive at a comprehensive view of human nature. Introspection reveals to us only that small sector of human life which is accessible to our individual experience. It can never cover the whole field of human phenomena. Even if we should succeed in collecting and combining all the data, we should

---

[48] Cassirer, Substance and..., op. cit.

[49] Cassirer, Philosophy of Symbolic..., op. cit.

[50] Cassirer, An Essay..., op. cit.

> still have a very meager and fragmentary picture -- a mere torso -- of human nature.[51]

It can be seen, at the outset, that in terms of a basic philosophic outlook, Cassirer's view of empirical psychological methodology is quite concordant with that expressed by the writer: a strict Behaviorism, although capable of yielding a great deal of useful information about human behavior, cannot provide a comprehensive explanation of it; hence, introspectively accessible (i.e., where stimulus-objects are located within individuals in such a way that only they themselves are in a position to have DIRECT access to the EFFECTS) reports obtained under experimentally controlled conditions must also qualify as an acceptable class of data (factual evidence when ascertained in light of a suitable theory) if a complete psychological understanding of man is to be (in principle) ascertained.

Next, Cassirer reminds us of an extremely important admonition made by Socrates; one that was perhaps fundamental to the entire Socratic philosophy.

> We cannot discover the nature of man in the same way that we can detect the nature of physical things. Physical things may be described in terms of their objective properties, but man may be described and defined only in terms of his consciousness. This fact poses an entirely new problem which cannot be solved by our usual modes of investigation. Empirical observation and logical analysis, in the sense in which these terms were used in pre-Socratic philosophy, here proved inefficient and inadequate. For it is only in our immediate intercourse with human beings that we have insight into the character

---

[51] Ibid., pp. 1-2.

> of man. We must actually confront man, we must meet him squarely face to face, in order to understand him. Hence it is not a new objective content, but a new activity and function of thought which is the distinctive feature of the philosophy of Socrates.[52]

Although this statement, in its proper context, makes reference to the philosophical dialogical method of enquiry propounded by Socrates, the problem of how to properly study the nature of man (because of the unique status of mans' intellect, i.e., a factor that differentiated man from other objects of scrutiny) was one that was given careful consideration many CENTURIES ago.

The following statement is a succinct summary of Cassirer's view of the present situation regarding the methodological study of man; one with which the writer is in wholehearted agreement:

> No former age was ever in such a favorable position with regard to the sources of our knowledge of human nature. Psychology, ethnology, anthropology, and history have amassed an astoundingly rich and constantly increasing body of facts. Our technical instruments for observation and experimentation have been immensely improved, and our analyses have become sharper and more penetrating. We appear, nevertheless, not yet to have found a method for the mastery and organization of this material. When compared with our own abundance the past may seem very poor. But our wealth of facts is not necessarily a wealth of thoughts. Unless we succeed in finding a clue of Ariadne to lead us out of this labyrinth, we can have no real insight into the general character of human culture; we shall remain lost in a mass of disconnected and disintegrated data which seems to lack all conceptual unity.[53]

---

[52] Ibid., p. 5.

[53] Ibid., p. 22.

The theory of symbolic development previously introduced by this writer placed great emphasis upon the notion that the origin of symbolic behavior was intimately related to the primordial bodily feelings, and particularly, the spontaneous emotional responses of infantile human organisms to changes in their internal bodily and external natural environments. Further it was maintained that the essential utility of symbolism (as it is gradually developed) is that it is the instrument by which vague, amorphous emotional feeling acquire successive discipline, thereby resulting in commensurately higher-ordered intelligent behavioral manifestations. Jacques Maritain, a contemporary Neo-Thomistic philosopher [also importantly influenced by Henri Bergson,[54] a French philosopher prominent in the development of a stream of thought generally entitled subjective realism (a position significantly affecting the thinking of such philosophers as Samuel Alexander and Alfred North Whitehead], characterizes the writer's view (generally) in the following, nearly poetic, fashion:

> The fathomless abyss of personal freedom of the personal thirst and striving for knowing and seeing, grasping and expressing -- I should call them the preconscious of the spirit in man. For reason does not consist only of its conscious logical tools and manifestations nor does the will consist only of its deliberate conscious determinations. Far beneath the apparent surface of explicit concepts and judgments, of words and expressed resolutions or movements of the will, are the sources of knowledge and poetry, of love and truly human desires, hidden in the spiritual

---

[54] Henri Bergson, Creative Evolution (New York: Henry Holt, 1911).

> darkness of the intimate vitality of the soul. Before being formed and expressed in concepts and judgments, intellectual knowledge is at first a beginning of insight, still unformulated, which proceeds from the impact of the illuminating activity of the intellect on the world of images and emotions and which is but a humble and trembling movement, yet invaluable, toward an intelligible content to be grasped.[55]

More specifically (with respect to the role of symbolism in this whole matter), the following sequences of quotations from Cassirer embody the fundamental elements of his views on the nature and role of symbolism as a causally influential factor in determining human behavior. It is necessary to quote Cassirer at length in order to appreciate the profoundity of his theory.

> ... in the human world we find a new characteristic which appears to be the distinctive mark of human life. The functional circle of man is not only quantitatively enlarged; it has also undergone a qualitative change. Man has, as it were, discovered a new method of adapting himself to his environment. Between the receptor system and the effector system (viz., in the domain which Skinner would regard as the reflex arc - the writer's comment), which are to be found in all animal species, we find in man a third link which we may describe as the SYMBOLIC SYSTEM. This new acquisition transforms the whole of human life. As compared with the other animals man lives not merely in a broader reality; he lives, so to speak, in a new DIMENSION of reality. There is an unmistakable difference between organic reactions and human responses. In the first case a direct and immediate answer is given to an outward stimulus; in the second case the answer is delayed. It is interrupted and retarded by a slow and complicated process of thought.[56]

---

[55]Jacques Maritain, Education at the Crossroads (New Haven: Yale University Press, 1943), p. 27.

[56]Cassirer, An Essay..., op. cit., p. 24.

Man cannot escape from his own achievement. He cannot but adapt the conditions of his own life. No longer in a merely physical universe, man lives in a symbolic universe. Language, myth, art, and religion are parts of the universe. They are the varied threads which weave the symbolic net, the tangled web of human experience. All human progress in thought and experience refines upon and strengthens this net. No longer can man confront reality immediately; he cannot see it, as it were, face to face. Physical reality seems to recede in proportion as man's symbolic activity advances. Instead of dealing with the things themselves man is in a sense constantly conversing with himself. He has so enveloped himself in linguistic forms, in artistic images, in mythical symbols or religious rites that he cannot see or know anything except by the interposition of this artificial medium. His situation is the same in the theoretical as in the practical sphere. Even here man does not live in a world of hard facts, or according to his immediate needs or desires. He lives rather in the midst of imaginary emotions, in hopes and fears, in illusions and disillusions, in his fantasies and dreams. "What disturbs and alarms man," said Epictetus, "are not the things, but his opinions and fancies about the things."

From the point of view at which we have just arrived we may correct and enlarge the classical definition of man. In spite of all the efforts of modern irrationalism this definition of man as an ANIMAL RATIONALE has not lost its force. Rationality is indeed an inherent feature of all human activities.... Language has often been identified with reason, or with the very source of reason. But it easy to see that this definition fails to cover the whole field. It is a PARS PRO TOTO; it offers us a part for the whole. For side by side with conceptual language there is an emotional language; side by side with logical or scientific language there is a language of poetic imagination. Primarily language does not express thoughts or ideas, but feelings and affections. And even a religion 'within the limits of pure reason' as conceived and worked out by Kant is no more than a mere abstraction. It conveys only the ideal shape, only the shadow, of what a genuine and concrete religious life is. The great thinkers who have defined man as an ANIMAL RATIONALE were not empiricists, nor did they ever intend to give an empirical account of human nature. By this

> definition they were expressing a rather fundamental moral imperative. Reason is a very inadequate term with which to comprehend the forms of man's cultural life in all their richness and variety. But all these forms are symbolic forms. Hence, instead of defining man as an ANIMAL RATIONALE, we should define him as an ANIMAL SYMBOLICUM.. By doing so we can designate his specific difference, and we can understand the new way open to man -- the way to civilization.[57]

The implications of these passages for the type of theoretical formulations which we have been developing is obvious, hence they need no further elaboration.

Next, we begin to focus upon the precise nature of language and its various modes of usage.

> But instead of giving a ready-made definition of speech, it would be better perhaps to proceed along tentative lines. Speech is not a simple and uniform phenomenon. It consists of different elements which, both biologically and systematically, are not on the same level. We must try to find the order and interrelationships of the constituent elements; we must, as it were, distinguish the various geological strata of speech. The first and most fundamental stratum is evidently the language of emotions. A great portion of all human utterance still belongs to this stratum. But there is a form of speech that shows us a quite different type. Here the word is by no means a mere interjection; it is not an involuntary expression of feeling, but a part of a sentence which has a definite syntactical and logical structure.[4] It is true that even in highly developed, in theoretical language the connection with the first element is not entirely broken off. Scarcely a sentence can be found -- except perhaps the pure formal sentences of mathematics -- without a certain affective or emotional tinge.[5] Analogies and parallels to emotional language may be found in abundance in the animal world. As regards chimpanzees Wolfgang Koehler states that they achieve a considerable degree of expression by means of

---

[57] Ibid., p. 25.

gesture. Rage, terror, despair, grief, pleading, desire, playfulness, and pleasure are readily expressed in this manner. Nevertheless one element, which is characteristic of and indispensable to all human language, is missing: we find no signs which have an objective reference or meaning. 'It may be taken as positively proved', says Koehler,

> that their gamus of PHONETICS is entirely "subjective", and can only express emotion, never designate or describe objects. But they have so many phonetic elements which are also common to human language, that their lack of articulate speech cannot be ascribed to SECONDARY (glosso-labial) limitations. Their gestures too, of face and body like their expression in sound, never designate or "describe" objects (Bühler).

Here we touch upon the crucial point in our whole problem. The difference between PREPOSITIONAL LANGUAGE and EMOTIONAL LANGUAGE is the real landmark between the human and the animal world. All the theories and observations concerning animal language are wide of the mark if they fail to recognize this fundamental difference.[58]

For the sake of a clear statement of the problem we must carefully distinguish between SIGNS and SYMBOLS. That we find rather complex systems of signs and signals in animal behavior seems to be an ascertained fact. We may even say that some animals, especially domesticated animals, are extremely susceptible to signs.[12] A dog will react to the slightest changes in the behavior of his master; he will even distinguish the expression of a human face or the modulation of a human voice.[13] But is a far cry from these phenomena to an understanding of symbolic and human speech. The famous experiments of Pavlov prove only that animals can easily be trained to react not merely to direct stimuli but to all sorts of mediate or representative stimuli. A bell, for example, may become a "sign for dinner", and an animal may be trained not to touch its food when this sign is absent. But from this we learn only that the experimenter, in this case, has

---

[58] Ibid., pp. 29-30.

succeeded in changing the food-situation of the animal. He has complicated the situation by voluntarily introducing to it a new element. All the phenomena which are primarily described as conditioned reflexes are not merely very far from but even opposed to the essential character of human symbolic thought. Symbols -- in the proper sense of this term -- cannot be reduced to mere signals. Signals and symbols belong to two very different universes of discourse: a signal is a part of the physical world of being; a symbol is part of the human world of meaning. Signals are "operators"; symbols are "designators".[14] Signals, even when understood and used as such, have nevertheless a sort of physical or substantial being; symbols have only a functional value.[59]

Some psychologists and psychobiologists have flatly refused to speak of the intelligence of animals. In all animal behavior they saw only the play of a certain autonatism. This thesis had behind it the authority of Descartes; yet it has been reasserted in modern psychology. 'The animal', says E. L. Thorndike in his work on animal intelligence, 'does not think one is like the other, not does it, as it is so often said, mistake one for the other. It just does not think ABOUT it at all; it just thinks IT.... The idea that animals react to a particular and absolutely defined and realized sense-impression, and that a similar reaction to a sense-impression which varies from the first proves an association by similarity, is a myth.'[15] Later and more exact observation led to a different conclusion. In the case of the higher animals it had become clear that they were able to solve rather difficult problems and that these solutions were not brought about in a merely mechanical way, by trial and error. As Koehler points out, the most striking difference exists between a mere chance solution and a genuine solution, so that the one can be easily distinguished from the other. That at least some of the reactions of the higher animals are not merely a product of chance but are guided by insight appears to be incontestable.[16] If by intelligence we understand either adjustment to the immediate environment or adaptive modifications of environment, we must certainly ascribe

---

[59] Ibid., pp. 31-32.

> to animals a comparatively highly developed intelligence. It must also be conceded that not all animal actions are governed by the presence of an immediate stimulus. The animal is capable of all sorts of detours in its reactions. It may learn not only to use implements but even to invent tools for its purposes. Hence some psychobiologists do not hesitate to speak of a creative or constructive imagination in animals.[17] But neither this intelligence nor this imagination is of the specifically human type. In short, we may say that the animal possesses a practical imagination and intelligence whereas man alone has developed a new form: a SYMBOLIC IMAGINATION AND INTELLIGENCE.[60]

For Cassirer, a symbolic 'imagination' and 'intelligence' has two crucially important developmental stages. He relies heavily upon an illustration drawn from the early life of Helen Keller to dramatically portray (as a "key" experiment) this two-stage process, necessarily involved in acquiring symbolic imagination and thereby intelligence.

> Helen Keller had previously learned to combine a certain thing or event with a certain sign of the manual alphabet. A fixed association had been established between these things and certain tactile impressions. But such a series of associations, even if they are repeated and amplified, still does not imply an understanding of what human speech is and means. In order to arrive at such an understanding the child had to make a new and more significant discovery. It had to understand that EVERYTHING HAD A NAME -- that the symbolic function is not restricted to particular cases but is a principle of UNIVERSAL applicability which encompasses the whole field of human thought.[61]
>
> The principle of symbolism, with its universality validity, and general applicability, is the magic word the Open Sesame! giving access to the

---

[60] Ibid., pp. 32-33.

[61] Ibid., pp. 34-35.

specifically human world, to the world of human culture. Once man is in possession of this magic his further progress is assured. Such progress is evidently not obstructed or made impossible by any lack in the sense material. The case of Helen Keller, who reached a very high degree of mental development and intellectual culture, shows us clearly and irrefutably that a human being in the construction of his human world is not dependent upon the quality of his sense material. If the theories of sensationalism were right, if every idea were nothing but a faint copy of an original sense impression, then the condition of a blind, deaf, and dumb child would indeed be desperate. For it would be deprived of the very sources of human knowledge; it would be, as it were, an exile from reality. But if we study Helen Keller's autobiography we are at once aware that this is untrue and at the same time we understand why it is untrue. Human culture derives its specific character and its intellectual and moral values, not from the material of which it consists, but from its form, its architectural structure. And this form may be expressed in any sense material.[62]

The thing of vital importance is not the individual brikcs and stones but their general FUNCTION as architectural form. In the realm of speech it is their general symbolic function which vivifies the material signs and "makes them speak". Without this vivifying principle the human world would indeed remain deaf and mute. With this principle, even the world of a deaf, dumb, and blind child can become incomparably broader and richer than the world of the most highly developed animal.

Universal applicability, owing to the fact that everything has a name, is one of the greatest prerogatives of human symbolism. But it is not the only one. There is still another characteristic of symbols which accompanies and complements this one and forms its necessary correlate. A symbol is not only universal but extremely variable. I can express the same meaning in various languages; and even within the limits of a single language a single thought or idea may be expressed in quite different terms. A sign or signal is

---

[62] Ibid., pp. 35-36.

related to the thing to which it refers in a fixed and unique way. One concrete and individual sign refers to a certain individual thing. In Pavlov's experiments the dogs could easily be trained to reach for food only upon being given special signs; they would not eat until they heard a particular sound which could be chosen at the discretion of the experimenter. But this bears no analogy, as it has often been interpreted, to human symbolism; on the contrary, it is opposite to symbolism. A genuine human symbol is characterized not by its uniformity but by its versatility. It is not rigid or inflexible but mobile. It is true that full AWARENESS of this mobility seems to be a rather late achievement in man's intellectual and cultural development. In primitive mentality this awareness is very seldom attained. Here the symbol is still regarded as a property of the thing like other physical properties. In mythical thought the name of a god is an integral part of the nature of a god. If I do not call the god by its right, then the spell or prayer becomes ineffective. The same holds good for symbolic actions. A religious rite, a sacrifice, must always be performed in the same invariable way and in the same order if it is to have its effect.[21] Children are often greatly confused when they first learn that not every name of an object is a "proper name", that the same thing may have quite different names in different languages. They tend to think that it "is" what it is called. But this is only the first step. Every normal child will very soon learn that it can use various symbols to express the same wish or thought. For this variability and mobility there is apparently no parallel in the animal world.[22] Long before Laura Bridgman had learned to speak, she had developed a very curious mode of expression, a language of her own. This language did not consist of articulated sounds but only of various noises, which are described as "emotional noises". She was in the habit of uttering these sounds in the presence of certain persons. Thus they became entirely individualized; every person in her environment was greeted by a special noise. 'Whenever she met unexpectedly an acquaintance,' writes Dr. Lieber, 'I found that she repeatedly uttered the word for that person before she began to speak. It was the utterance of pleasurable recognition.'[23] But when by means of the finger alphabet the child had grasped the meaning of human language the case was altered. Now the sound really became a name: and this name was not bound to an individual person

but could be changed if the circumstances seemed to require it.[63]

Another important aspect of our general problem now emerges -- the problem of the DEPENDENCE OF RELATIONAL THOUGHT UPON SYMBOLIC THOUGHT. Without a complex system of symbols relational thought cannot arise at all, much less reach its full development. It would not be correct to say that the mere AWARENESS of relations presupposes an intellectual act, an act of logical or abstract thought. Such an awareness is necessary even in elementary acts of perception. The sensationalist's theories used to describe perception as a mosaic of simple sense data. Thinkers of this persuasion constantly overlooked the fact that sensation itself is by no means a mere aggregate or bundle of isolated impressions. Modern Gestalt psychology has corrected this view. It has shown that the very simplest perceptual processes imply fundamental structural elements, certain patterns or configurations. This principle holds for both the human and the animal world. Even in comparatively low stages of animal life the presence of these structural elements -- especially of spatial and optical structures -- has been experimentally proved.[25] The mere awareness of relations cannot, therefore, be regarded as a specific feature of human consciousness. We do find, however, in man a special type of relational thought which has no parallel in the animal world. In man an ability to isolate relations -- to consider them in their abstract meaning -- has developed. In order to grasp this meaning man is no longer dependent upon concrete sense data, upon visual, auditory, tactile, kinesthetic data. He considers these relations "in themselves".... Geometry is the classic example of this turning point in man's intellectual life. Even in elementary geometry we are not bound to the apprehension of concrete individual figures. We are not concerned with physical things or perceptual objects, for we are studying universal spatial relations for whose expression we have an adequate symbolism. Without the preliminary step of human language such an achievement would not be possible.[64]

---

[63] Ibid., pp. 36-37.

[64] Ibid., p. 38.

The next two quotations suggest how we may conceive of primitive and infantile minds as they comprehend reality in early life. It is clearly seen that the vague undifferentiated complexity of emotional consciousness is the predominate characteristic of this type of mentality.

> To be sure all attempts to intellectualize myth -- to explain it as an allegorical expression of a theoretical or moral truth -- have completely failed. They ignore the fundamental facts of mythical experience. The real substration of myth is not a substration of thought but of feeling. Myth and primitive religion are by no means entirely incoherent, they are not bereft of sense or reason. But their coherence demands much more upon unity of feeling than upon logical rules. This unity is one of the strongest and most profound impulses of primitive thought. If scientific thought wishes to describe and explain reality it is bound to use its general method, which is that of classification and systematization. Life is divided into separate provinces that are sharply distinguished from each other. The boundaries between the kingdoms of plants, of animals, of men -- the differences between species, families, genera -- are fundamental and ineffaceable. But the primitive mind ignores and rejects them all. Its view of life is a synthetic, not an analytic one. Life is not divided into classes and subclasses. It is felt as an unbroken continuous whole which does not admit of any clean-cut and trenchant distinctions. The limits between the different spheres are not insurmountable barriers; they are fluent and fluctuating. There is no specific difference between the various realms of life. Nothing has a definite, invariable, static shape. By a sudden metamorphosis everything may be turned into everything. If there is any characteristic and outstanding feature of the mythical world, any law by which is is governed -- it is this law of metamorphosis. Even so we can scarcely explain the instability of the mythical world by the incapacity of primitive man to grasp the empirical differences of things. In this regard the savage very often proves his superiority to the civilized man. He is susceptible to many distinctive features that escape our attention. The animal drawings and paintings that we find in

the lowest stages of human culture, in paleolithic art, have often been admired for their naturalistic character. They show an astounding knowledge of all sorts of animal forms. The whole existence of primitive man depends in great part upon his gifts of observation and discrimination. If he is a hunter he must be familiar with the smallest details of animal life; he must be able to distinguish the traces of various animals. All this is scarcely in keeping with the assumptions that the primitive mind, by its very nature and essence, is undifferentiated or confused, a prelogical or mystical mind.

What is characteristic of primitive mentality is not its logic but its general sentiment of life. Primitive man does not look at nature with the eyes of a naturalist who wishes to classify things in order to satisfy an intellectual curiosity. He does not approach it with merely pragmatic or technical interest. It is for him neither a mere object of knowledge nor the field of his immediate practical needs. We are in the habit of dividing our lives into the two spheres of practical and theoretical activity. In this division we are prone to forget that there is a lower stratum beneath them both. Primitive man is not liable to such forgetfulness. All his thoughts and his feelings are still embedded in this lower original stratum. His view of nature is neither merely theoretical nor mere practical; it is SYMPATHETIC. If we miss this point we cannot find the approach to the mythical world. The most fundamental feature of myth is not its special direction of thought or special direction of human imagination. Myth is the offspring of emotion and its emotional background imbues all its productions with its own specific color.[65]

Long before a child learns to talk it has discovered other and simpler means of communicating with other persons. The cries of discomfort, of pain and hunger, of fear or fright, which we find throughout the organic world begin to assume a new shape. They are no longer simple instinctive reactions, for they are employed in a more conscious and deliberate way. When left alone the child demands by more or less articulate sounds the presence of its nurse or mother, and it becomes aware that these demands have the desired effect. Primitive man transfers this

---

[65] Ibid., p. 81.

first elementary social experience to the totality of nature. To him nature and society are not only interconnected by the closest bonds; they form a coherent and indistinguishable whole. No clear-cut line of demarcation separates the two realms. Nature itself is nothing but a great society -- the society of life.[66]

The "hunger" for names which at a certain age appears in every child and which has been described by all students of child psychology[39]... reminds us that we are here confronted with a quite different problem. By learning to name things a child does not simply add a list of artificial signs to his previous knowledge of ready-made empirical objects. He learns rather to form the concepts of these objects, to come to terms with the objective world. Henceforth the child stands on firmer ground. His vague, uncertain, fluctuating perceptions and his dim feelings begin to assume a new shape. They may be said to crystallize around the name as a fixed center, a focus of thought. Without the help of the name every new advance made in the process of objectification would always run the risk of being lost again in the next moment. The first names of which a child makes conscious use may be compared to a stick by the aid of which a blind man gropes his way. And language, taken as a whole becomes the gateway to a new world. All progress here opens a new perspective and widens and enriches our concrete experience. Eagerness and enthusiasm to talk do not originate in a mere desire for learning or using names; they mark the desire for the detection and conquest of an objective world.[40] [67]

The name of an object lays no claim upon its nature; it is not intended to... give us the truth of a thing. The function of a name is always limited to emphasizing a particular aspect of a thing, and it is precisely this restriction and limitation upon which the value of the name depends. It is not the function of a name to refer exhaustively to a concrete situation, but merely to single out and dwell upon a certain aspect. This isolation of this aspect is not a negative but a positive act. For in

---

[66] Ibid., p. 110.

[67] Ibid., p. 132.

> the act of denomination we select, out of the multiplicity and diffusion of our sense data, certain fixed centers of perception. These centers are not the same as in logical or scientific thought. The terms of ordinary speech are not to be measured by the same standards as those in which we express scientific concepts. As compared with scientific terminology the words of common speech always exhibit a certain vagueness; almost without exception they are so indistinct and ill-defined as not to stand the test of logical analysis. But not withstanding this unavoidable and inherent defect our everyday terms and names are the milestones on the road which leads to scientific concepts; it is in these terms that we receive our first objective or theoretical view of the world. Such a view is not simply "given"; it is the result of a constructive intellectual effort which without the constant assistance of language could not attain its end.[68]

The writer has found it necessary to quote Cassirer at great length for it seemed only appropriate to conjure to this issue the considerable wisdom and scholarly research of a man which, in the area of symbolic development, perhaps knows of no equal. Cassirer, a notable philosopher in his own right, had amassed an extraordinary wealth of empirical and historical research to this subject, consequently it would seem presumptious of this writer to attempt to paraphrase the views of this great thinker, for his exactitude and clarity of expression are difficult to surpass. Thus it is in light of the vast intellectual resource contained implicitly within Cassirer's thoughts on symbolic development that we shall attempt to elaborate, in an increasingly precise and scientifically propitious

---

[68] Ibid., pp. 134-135.

manner, the theory of symbolic development originally proposed (earlier in this chapter) by the writer.

Section Five

With the above information in mind, let us endeavor to more clearly and systematically formulate a theory of symbolic development appropriate for a subjective psychology. Three very general ~~categorical~~ stages of development can be said to encompass this phenomenon, namely, the familiar divisions of (I) infancy-childhood, (II) childhood-adolescence, (III) adolescence-adulthood. Since the most important and dramatic developments in symbolic behavior occur during the first stage, preponderant analytical attention will be devoted to this period.

I. Infancy - Childhood Stage

a) At the immediate outset of a child's life, (prenatal and shortly thereafter) anything that could be regarded as mind (minimal conscious awareness, or "that" which stands over and against percepta issuing from natural or internal bodily stimulus-objects) is at a very minimum. There is probably in evidence a bare subjective world of undifferentiated, highly vague organic-feeling percepta (of course all this is necessarily very speculative, but some discussion of this early period seems warranted if only to help differentiate among stages of symbolic development). At this level, it seems tenable to say that the purely perceptual "world" of the infant is GREATLY INTROVERTED in that FELT percepta arise from internal organismic locations as well as from the natural world (of course no such distinction between these two distinct realms is realized by an infant mentality, for such an understanding is itself contingent upon some amount of symbolic facility). This period also appears to be dominated primarily by

pleasure-pain feelings whose intensity and hence distinctness from one another would seem to increase as the organism matured both physiologically and mentally.

b) Next it would appear that qualitatively more sophisticated states of emotion, beyond a minimal awareness of painful and pleasurable feelings, would develop merely as a result of physiological growth, and in varying degrees, to low-ordered pre-symbolic learnings; thus, vaguely aware experiences like FEELING the consumption of food, and mother's warmth, for example, could be progressively differentiated: still as predominantly introverted experience.

c) The vague subjective emotional state of ANTICIPATION seems to be the next significant development. Here we assume that after a backlogue of important experiences have been "neurologically recorded" (a mode of acquiring very basic information that is pre-symbolic and does not rely upon considerably more sophisticated causal factors such as 'conscious intentionality', etc., but rather, involves automatic reflexive behavior developed through various modes of reinforcement that require minimal conscious entertainment of previously learned information), a primordial form of memory (wisdom) would be coming to bear upon the infant's ever-emerging present perceptual awareness such that the present subjective psychological or conscious occasion would be CONSTRUCTIVELY QUALIFIED to some extent by the integrated learnings from past experience. Thus the emotional states resulting from experiencing food and motherly caressing would, in a very minimal way, be consciously anticipated by the infant human organism; pleasurable reactions would also be somewhat more intense due to the newly achieved state of anticipation. REFLECTIVE recognition of anticipated experience would still remain introverted in that the pleasurable experience, for example, would be acknowledged as such during its actual occurrence, but not recalled after the fact, or recognized to have "resulted from" the external stimulus-objects, food or mother.

d) We now move to the phenomenon of "projecting emotion" whereby the infant becomes aware that there is an external world possessing an independent existence that is capable of

influencing his experience (this corresponds to the outset of Cassirer's 'sign stage'). This is simply to say that "something (mother) yields warmth", "something (food) is pleasurable", "something (fear) is the absence of something (a comforting mother)", and so on. Out of these types of vaguely conscious discriminations, the infant begins to respond to external stimulus-objects so as to project his emotional states (thereby demonstrating a more consciously active character as opposed to former reflexive behavioral qualities) at those objects manifested through crying, biting, touching and by manifesting other types of spontaneous emotional expression that promote an increased frequency of crude exploratory behaviors, as a result of their pleasurably reinforcing consequences.

e) It is a result of being aware of an external world, and from actively responding to it, that the primordial emotion represented by the term 'power' arises; whereby an infant vaguely becomes cognizant of the fact that certain behaviors that he executes tend to increase the number of emotionally satisfying subjective states, while minimizing the frequency of those experienced as unpleasant. For example, the act of crying when an infant organism has feelings of hunger often results in the appearance of a "something" (mother) which relieves the discomforting states /the words used to explain certain phenomena as, for example, the hypothesized 'feeling of power', merely by the fact that they are WORDS (used to designate and explain the phenomenon), greatly overstates the subjectively understood INFANTILE MEANING undoubtedly characteristic of such vague, amorphous experiential occasions. However unsuitable this kind of explanation may be, some attempt at designating developmental stages must be made to accentuate the distinctive, and hence, psychologically necessary conditions presupposed for early symbolic, and later, consciously reflective behavior.7 Thus in this way infants have some determination (viz., through what they experience as pleasurable, painful, etc.) in increasing the frequency of pleasurable states and minimizing the unpleasant ones; this is the bare experience of power. (NOTE: In this whole developmental process the reader might bear in mind the notion of a computer having data programmed into its memory TO BE USED FOR FUTURE

OPERATIONS, rather than interpreting too literally the connotations of the words used to explain this phenomenon of infantile symbolic acquisition -- words that are MEANINGFUL to an ADULT mind for characterizing ADULT experience. However, the limitations of the computer analogy -- and consequently a basic reason for discoursing about directly experienced organic feelings, bodily emotions, as well as consciousness and reflective consciousness -- is that the concept of 'programming' does not emphasize or even logically imply the unique SYNTHETIC POWER of brain neurology. The necessary phenomenon of 'relevant past experience coming constructively to bear upon immediately delivered internal and external perceptions thereby enhancing their subjective psychological MEANING' is, without question, not implicit in the computer illustration. This is to say that DISCIPLINED FELT AWARENESS is not a causally efficacious intervening variable in "mechanical intelligence". It is absolutely imperative to understand that the acquisition of 'FELT WISDOM' is crucial to human mentality, in that data from past experience is not merely passively stored and (blindly) MECHANICALLY utilized; it is, rather, CONSCIOUSLY ENTERTAINED, and hence, ACTIVELY CONTEMPLATED in its utilization as stimulus-objects for making additional CONSCIOUSLY INTELLIGENT behavioral responses to CONSCIOUSLY UNDERSTOOD problematic circumstances. All this is not to say, however, that intelligent behavior somehow "exceeds", or is incomprehensible within, systematically determinable cause-effect relationships.

f) At this level, Cassirer's 'sign' stage is more clearly evident. Infants attempt to imitate the verbally articulated sounds of an attentive other person; initially to acquire and hence sustain the emotional pleasure of gaining attention and affection. Consequently, infant responses are imitative without any meaningful understanding of the uttered linguistic symbols, for the interpersonal exchanges in themselves are highly gratifying for infants even though their inner states are essentially emotional. At higher levels of emotional discipline infant gratification results, in addition, from active "reality testing" prompted by primordial curiosity.

g) But after prolonged, consistent exposure to the 'sign' mode of behavior, what Cassirer

defines as the 'symbol' stage emerges; this is the crucially important one for human organisms. Here we are presented with the phenomenon where, for example, a mother, after having repeatedly spoken the word "mama" while concomitantly making self-referential gestures, discovers that the child is beginning to emit verbal "mama-responses" when he perceptually apprehends her presence or he desires her attention. In this, the child becomes vaguely aware of the fact that his entire relevant experiential backlogue referring to 'mother stimulus-object effect' /derived from a multitude of vaguely recalled, but powerfully FELT previous experiences -- e.g., 'mother-warm', 'mother-food', 'mother-playful', 'mother-pain reliever', etc./ is PROJECTED at mother-stimulus-object by expressing the WORD "mama". The relevant past has been constructively brought to bear upon the present occasion so as to MEANINGFULLY transcend the bare implication of the external perceptual apprehension delivered in the contemporary circumstance. The highly vague and indeterminate EMOTIONAL configuration of 'mama-experiences' are UNITED, and hence (intentionally), PROJECTED merely by speaking the word "mama". After this process has been frequently repeated, using other words as well, the child begins to understand that verbally articulated sounds are more than merely sounds expressed to attract and maintain adult attention. Rather, words REPRESENT CATEGORIES of relevant emotional experience with respect togiven familiar stimulus-objects. Pleasurable and painful experiences can be differentiated by subsuming them to the inclusive, and thereby unifying, category of emotional meaning represented by an appropriate word. This excites a feeling of power in young children; they have discovered a means for ORGANIZING and CLARIFYING their strange world of concrete emotional experience. As a repertoire of words are accumulated, the precondition for the still higher-ordered phenomenon of SUBJECTIVE PSYCHOLOGICAL SYMBOLIC MEANING is progressively provided. Words are found to not only comprehend categories of EMOTIONAL experience, but also, by expressing them in certain sequences, emotional categories of experience can be MANIPULATED; and more exciting, one can "PROJECT" this process of word manipulation to others and thereby establish reciprocal communication! Here we

are at the very heart of the primordial nature of subjective psychological MEANING, for if WORDS encompass DETERMINATE categories of FEELING AND EMOTIONAL EXPERIENCE, one has the POWER of "RETRIEVING", in a rapid and succinct way, many pleasurable 'mama-experiences', for example (fanticizing would be an elaboration of this facility). It is a way of CONCENTRATING the FEELING of formerly experienced pleasure by merely saying "mama". This is certainly an extraordinary power; therefore, there is considerable motivation for children to develop this verbal capacity when they are initially learning to talk. Further, as the number of EMOTIONALLY QUALIFYING symbols increases /hence enabling PAST experience to be RE-ENJOYED (although less vividly) simply by expressing the appropriate linguistic symbol/, and further, by manipulating ordered sequences of symbols, the phenomenon of 'MEANING-AS-DIRECTLY-FELT-RELATEDNESS' develops. This is the experience of FEELING the UNITY of symbolically represented objects in a vague but psychologically meaningful, confident, and satisfying way. Symbols not only represent global emotional configurations of important past experience, and moreover, provide a means for retrieving and hence rendering aspects of the past relatively permanent, but also, they are a means for reducing the intensity of anxiety resulting from indeterminate, felt complexity of a given experiential occasion. Thus a symbol can SIMPLIFY complex and otherwise unwieldly emotional experience such that the more prominent aspects of experience can be cognitively retained while the remaining portions either entirely escape or fade from conscious recognition. In the process, then, of organizing clearly determinate symbols (which by their characteristic nature are devices for simplifying and rendering permanent IMPORTANT features of original concrete experience, so that they may become intelligible instruments for thinking-behavior) into a definite order, diverse aspects of emotional experience can be brought into novel relationships. Moreover, symbols also have DENOTATIVE aspects in that they can be clearly and easily brought to mind, and thus manipulated with reference to other symbols. But in addition, they have a CONNOTATIVE dimension which refers to the vastly complex network of rich emotionality (directly felt with greatest

intensity particularly in infantile concrete experience) that CANNOT, in all its ramifications, be brought clearly to consciousness due to the VERY FACT OF ITS SUBTLE COMPLEXITY, and also, because much of the original intensity quickly fades from consciousness. Nevertheless, some of this vague connotative dimension is neurologically recorded as it occurs as highly concrete, unified, barely conscious emotional experience; in addition, of course, to those denotative aspects which have been intentionally (consciously) symbolically qualified. Thus when engaging in the activity of symbolic thinking, symbols are CLEARLY present in mind, specifically relating various cognitive factors with one another. However, there is also the CONCOMITANTLY occurring VAGUE, CONNOTATIVE dimension which is EXPERIENTIALLY IMPLICIT in ALL THOUGHT by being VAGUELY and COMPREHENSIVELY SUGGESTED within the specifically CLEARLY apprehendable symbols, as well as clusters of symbols, intended to embody complete thoughts. The CONNOTATIVE elements comprising complete symbolic thought, considered as they are SYNTHETICALLY united within the actual concrete activity of thinking, is what is meant here by the phenomenon of 'MEANING-AS-DIRECTLY-FELT-RELATEDNESS'. This is, perhaps, the most profoundly complicated of all humanly perceivable phenomena, and yet, it occurs as a typical portion of all human thought, as a result of individual human organisms possessing a neurological system containing mechanisms capable of synthesizing massive quantities of sensory data progressively obtained from experience and stored in millions of brain cells. MEANING-AS-DIRECTLY-FELT-RELATEDNESS is the learned product, then, of developed symbolic behavioral capacities in a class of very high ordered organisms, in which the symbols are used to SIMPLIFY the profound complexities of the directly experienced effects from inner and outer environments. After having symbolically "tagged" a small number of the objects, properties, and their unifying relations (functioning as stimulus objects) in these environments (A BEHAVIORAL ACT MADE POSSIBLE THROUGH A GRADUALLY EMERGING PROCESS IN WHICH A SUBSTATUM OF EMOTIONAL FEELING IS SUBSUMED TO SYMBOLIC DISCIPLINE), the organism has, in effect, imposed some small degree of DISCIPLINE upon his formerly vague, amorphous

organic and emotional feeling. This is of course a slowly acquired ability, hence yielding to individual organisms, as subjective psychological experience, a commensurate amount reinforcing CONFIDENCE (at least until organisms reach a high level of behavioral sophistication) that is proportionate to symbolic mastery. Symbolic acquisition is also a source of great motivation for promoting further and more precise comprehension of reality. The FORM which this process of symbolic discipline (as clarified understanding) acquires seems to be determined by the very objects and relations that are DIRECTLY EXPERIENCED AS UNIFIED, in their occurrence as perceptions resulting from internally and externally located configurations of stimulus-objects. In any case MEANING-AS-DIRECTLY-FELT-RELATEDNESS, at least in early stages of symbolic development, is the way that organisms have EXPERIENTIALLY FELT BEING: both as organic bodily and emotional feeling. The term 'mama', for example, is heavily laden with CONNOTATIVE meaning; the barren (clearly conceived) spoken term occurs as merely a single component of subjective psychological experiential MEANING, in contrast to the accompanying emergence of connotatively vague, emotionally charged, symbolically undisciplined FELT MEANING. At the other extreme, however, viz., that of highly developed adult symbolic intelligence, the converse situation is in evidence in that we can consciously entertain many clearly understandable symbols (both in silent thought and in intersubjectively manifest behaviors). To maintain (as this writer will) that the "substance" of thought is highly disciplined emotional feeling -- made possible through gradual symbolic development -- is, indeed, to express a view appearing very peculiar at face value to mature adult intelligence. The rationale for this position, although somewhat implicit in our previous discussion on symbolic development, will be presented in greater detail in future chapters. Let it suffice to say at this time that /because the connotative aspect of symbolism refers to the original infantile way that we directly FELT (organically and emotionally) or experienced our own internal and external natural states, while the denotative aspect refers to the way that the fullness of actual experiential occasions must be SIMPLIFIED in order to render it clearly symbolically intelligible/ at higher stages of

intelligence, myriad symbols are acquired and hence internalized as so profoundly interrelated, that they can be REFLEXIVELY conjured to characterize experience with such great facility that the originally CONNOTATIVELY (EMOTIONALLY) FELT aspect of experience is SUBLIMATED. As a result of this phenomenon philosophers have come to define thought in many diverse ways: Aristotle has characterized thought as pure form[69] that can accept any perceptual matter; Descartes considered thought as extentionless substance or images;[70] and Ryle conceptualizes thought as entirely manifest behavior resulting from given stimulus and reinforcing environmental conditions, considering any recourse to inner states as an unwarranted regression to seventeenth century "ghost-in-a-machine" naivete; and similarly with Skinner, (as we have seen) the problem of thought is "resolved" by "short-circuiting over" the whole issue via the concept of reflex arc. As it is the case with all theories of mind, the view espoused by the writer (which has been importantly influenced by Aristotle, Cassirer and Whitehead) is also subject to criticism as well because of the very difficult problem of attempting to define and explicate the experiential (hence raising subjective psychological phenomena to a FACTUAL status IF properly conceived within an appropriate theoretical framework) as well as the structural nature of thought, as it is revealed in direct subjective psychological experience. The basic justification for this obscure and difficult theoretical viewpoint is that it seems precisely characteristic of our IMMEDIATE CONCRETE EXPERIENCE OF REALITY. In this way, the writer feels that his theoretical constructs, particularly as they become more rigorously defined, are quite in accord with the "facts". As it has been said, we shall again return to the issue of symbolic development, but in order to make the argument more clear, new and more precise constructs must be formulated; a task which will be the primary focus of attention in

---

[69] Richard McKeon, The Basic Works of Aristotle (New York: Random House, 1941), pp. 535-603.

[70] Elizabeth S. Haldane and G. R. T. Ross, The Philosophical Works of Descartes (New York: Dover, 1931), pp. 131-218.

in the remainder of this chapter, and also in the third chapter.

The reader will have noticed at this point, no doubt, that we have significantly deviated from our attempt to define the conspicuous features of the developmental stages of symbolic acquisition manifested in the 'Infant - Childhood" period (Stage I). This digression seemed justified in order to introduce the crucially important concept of MEANING-AS-DIRECTLY-FELT-RELATEDNESS, and to demonstrate, in some minimal way, its relationship to adult symbolic intelligence. Now let us return to our discussion on the development of symbolic intelligence in the maturing human organism. We have at this point indicated the final developmental sub-stage of the 'Infant - Childhood' period. As it has been said the most important stage, by far, with respect to symbolic intelligence, is this entire initial stage for most of the fundamental aspects of symbolic behavior have been (at least) basically mastered, with the exception of purely abstract symbolic intelligence.

II. Childhood - Adolescence Stage

a) For the purposes of this paper, let us simply say that this period is primarily involved in acquiring symbolic sophistication in characterizing stimulus-object effects (including the properties, and the relations demonstrated by entities in relative change with one another), and developing an operational facility in the active, functional usage of symbols. Also, there is the development of symbolic abstractive intelligence, embodied in such behaviors as developing generalizations about phenomenal occurrences which have properties in common, for example; e.g., in developing inductive-deductive reasoning powers, characteristic of the mathematical and geometrical (formal) scientific reasoning, etc.

III. Adolescence - Adulthood Stage

a) Similarly, with respect to the purposes of this paper, this period involves a final major development in refining symbolic

intelligence, and in exploiting this ability (in some cases) to its optimum limits.

Therefore it can be generally concluded from our discussion on symbolic development, that the phenomenon initially arises out of an organism's ability to subjectively experience QUALITATIVELY DIFFERENT types of organic bodily and emotional FEELING -- viz., painful and pleasurable inner states, and hence, actively proceed (because of the organism's intrinsic bodily STRUCTURE) to increase the frequency of states experienced as pleasurable --, and from this to progressively ORGANIZE and CLARIFY vague, primordial, sporadic organic and emotional feelings via symbols /HABITS also originate in the same way, in principle, but the whole process is greatly accelerated through inter-penetrative relationships with other human organisms already possessing a mature symbolic facility (who function as agents capable of yielding feed-back responses to symbolically unsophisticated organisms that are ACTIVELY endeavoring to increase the frequency of their qualitatively pleasurable subjective psychological experiences)7. The RATIONAL structural form in which symbols acquire coherence and qualitatively variable subjective psychological MEANING, ALSO arises from the organism's gradual understanding of the directly experienced structure of reality revealed in reoccurring configurations of percepta (as they embody the nature of entities, their properties, and the relations among entities in process), as these percepta and their modes of occurrence are progressively attributed specificity

through precise symbolic representation, testifying to the predictable and distinctive features of inner and outer experience. Truly, then, the situation is as Cassirer has conceived it:

> Man has, as it were, discovered a new method of adapting himself to his environment. Between the reception and the effector system, which we find in all animal species we find in man a third link which we may describe as the SYMBOLIC SYSTEM. This new acquisition transforms the whole of human life. As compared with other animals man lives not merely in broader; he lives, so to speak, in a NEW DIMENSION of reality. There is an unmistakable difference between organic reactions and human responses. In the first case a direct and immediate answer is given to an outward stimulus; in the second case the answer is delayed. It is interrupted and retarded by a slow and complicated process of thought.[71]

> No longer can man confront reality immediately; he cannot see it, as it were, face to face. Physical reality seems to recede in proportion as man's symbolic activity advances. Instead of dealing with the things themselves man is in a sense constantly conversing with himself.[72]

> ... side by side with conceptual language there is an emotional language; side by side with logical or scientific language there is a language of poetic imagination. Primarily language does not express thoughts or ideas, but feelings and affections.[73]

Here we can clearly determine the difference between Cassirer's concept of human behavior in distinction from that of Skinner's. The previous chapter has, in effect,

---

[71] Cassirer, An Essay..., op. cit., p. 24.

[72] Ibid., p. 25.

[73] Ibid., p. 25.

been a series of arguments criticizing the Behavioristic conception of human behavior; showing it to be highly useful as a methodological way of investigating a particular class of human behavior -- namely that which is directly apparent to external observers --, but as never being capable of providing, in principle, a complete exposition of all causally efficacious variables that determine behavior, for all subjective psychological factors are methodologically purged from a Behaviorism. In doing this, the way had been cleared to devote our attention to developing a systematic concept of human behavior issuing from subjective psychological experience (one having much in common with the views of Cassirer and Whitehead), and in this way, laying the foundation for a second, mutually exclusive way of conceptualizing behavior. Thus, BOTH an objective and subjective psychological approach to studying human behavior can, in principle, yield a full systematic account of this phenomenon.

Section Six

The preceding discussion on the theories of conscious and consciously reflective behavior, and the development of symbolic behavior, were expressed in terms lacking in definitional rigor. It is the writer's sentiment that discussion of this sort is the "raw material" out of which more precise formulations can be developed, for less formal analysis is generally more in accordance with concrete, immediate experience -- a source of indeterminate

suggestability for theoretical construction. To remain exclusively within the domain of formal abstraction or parsimonious operational definition, which often manifest only the guise of rigorous scientific formulation, is to purge from one's thoughts the very elements that frequently stimulate novel, ingeneous cognitive associations. Particularly when devising constructs to systematically characterize human behavior, great care should be exercised in avoiding the frequently committed error of developing a concept of man that includes only those aspects of his behavior which he shares in common with lower-ordered organisms and mechanical calculating devices (while omitting many dimensions that are uniquely distinctive to the human organism), again, under the guise of being rigorously scientific. Concrete human experience as it is known through direct acquaintance provides us with an abundance of FACTUAL data. The key to understanding this type of complexly delivered information is in developing testable hypothetical constructs designed specifically to elucidate the unique character of CONCRETE HUMAN EXPERIENCE as it reveals itself in recurrent perceptual ways; not by exclusively attempting to study man as though he were a consciousless physical entity whose behavioral manifestations could be understood solely in terms of natural and biological scientific concepts, for this is to exclude the CAUSAL EFFICACITY OF MENTAL EVENTS as a powerful class of uniquely human behavioral determinants.

Therefore, with the above clearly in view, let us now begin to develop a highly abstract, comprehensive theoretical model for human behavior; suitable for systematic scientific investigation, but carefully designed to avoid the error of committing an unwarranted scientific reductionism by methodologically omitting important causally efficacious aspects of human behavior. The definitional terms to be used to define the model are intended to possess cybernetic universality with respect to comprehending the physio-chemical processes involved in activated human organic bodily mechanisms (or any organismic mechanisms, for that matter). Hence the writer sees no serious incompatibility between the methodological procedures used in this paper and those demonstrated by Ross Ashby in his Design for a Brain[74] and Introduction to Cybernetics[75] (although Ashby's expositions are considerably more detailed, and brilliantly elaborated, in contrast to those of the writer's). Once again, it is the contention of the writer that the uniquely human behavioral phenomena formerly discussed and analyzed in non-technical terms /namely conscious and reflective conscious symbolic (subjective psychological) behavior/; have (IN PRINCIPLE) empirically ascertainable, equivalent physio-chemical correlative states that can be generally theoretically comprehended in their

---

[74]W. Ross Ashby, Design for a Brain (New York: John Wiley & Sons, 1963).

[75]Ashby, An Introduction to..., op. cit..

dynamic states by the cybernetic model to be proposed. This cybernetic model, then, will represent the physio-chemical processes that are EMPIRICALLY identical with correlative mental processes, and further, show the relationship of mental events (as EMERGENT phenomena) to their underlying physio-chemical processes. This is not to say, however, precisely because of the arguments propounded in "Chapter One", that the cybernetic model to be presented is in itself SUFFICIENT for a complete explanation of human behavior; rather, that it is a NECESSARY theoretical instrument for such an endeavor.

In past discussions we began our analysis of new topics by initially considering some of their intuitively obvious dimensions, and then gradually worked to clarify them by carefully analyzing their basic presuppositions in order to explicate their intrinsic implications. This (reflectively) critical and constructive process seems characteristic of intelligent behavior in general. Speaking metaphorically, this analytical activity is the process of moving from vague awareness in understanding to clear understanding. However, stated in this manner, there is the erroneous implication that 'clear understanding' is to be equated with 'FINAL understanding'. Rather, the process of clear conception is a CYCLICAL one, for in having achieved clarity of understanding at a given point in time, part of the triumph entails coming to realize the extraordinary SYMBOLIC RELATEDNESS of concepts; hence, the paradox that

clarity also perpetuates vagueness. Thus clear understanding can be comprehended (as such) only in reference to one's former state of vague understanding, but once an issue has been clearly understood, we often concomitantly become aware of our (in fact) limited comprehension of a topic of concern. To be unable to accept the fact of 'the relatedness of things' is to degenerate into dogmatism, for this ontalogical fact demands that we incessantly subject our most cherished theories to intensive, persistent critical examination; ready always to strip away their outmoded and/or contradictory aspects, and more important, to continually contemplate them from novel perspectives in an effort to derive fresh meaning from concepts. If this general view of intelligent behavior is substantially valid, then a critical evaluation of conventional techniques for "measuring" intelligence seems warranted, as well as the theories upon which they are predicated, for they generally tend to de-emphasize the relatedness of concepts /or stated differently, the CONNOTATIVE implications that intrinsically define these ideational entities (which is another way of conceptualizing the relatedness of things)/, while (erroneously) stressing "stable" factual information. Empirical factual knowledge is not simply "hard and fast"; its very possibility for expansion (as it is the case with 'analytical' knowledge) issues from 'the relatedness of things'. The logical meaning of the term 'human intelligence' will, then, be worthy of further attention in future

discussion for our present enquiries will shortly lead us to the very heart of subjective psychological meaning in its various qualitative manifestations (arising as a function of given stimulus-occasions). But for the present, the basic reason for raising the issue of 'vague-to-clear understanding' and the accompanying concept of 'relatedness' is that they are intrinsic to the cybernetic model to be developed in the sense that these notions, beyond the fact that they have relevance for conscious processes, signify also, on a physio-chemical level, the synthetic character of the organic processes that underlie mental events. We shall now proceed to develop the model.

Human beings are constantly exposed, at any point in time, to an incessant flow of stimulus-object effects issuing from BOTH the external natural world and their internal bodily organisms. Not only are we constantly bombarded, for example, by myriad details of manifest macroscopic environments, but also those of the physical microcosm. There are colors, pains, desires, sounds, concepts, perceptions of solidity, relations among these entities, etc.; and also, cosmic rays, ultrasonic sounds, electromagnetic forces, etc. -- to mention but a few of the many diverse stimulus-object effects that persistently affect our entire organism in varying ways throughout time. On the other hand, in our matter-of-fact daily activities, our worlds seem to be tolerably comprehensible and well ordered -- trees are trees, duties are duties, love is love,

and so on. Thus amid the enormous concrete complexity of physical and conscious processes and modes of interaction among these processes, the human mind, in face of this complexity (much of which is directly consciously ascertainable without specialized apparatus), comprehends daily affairs in a greatly SIMPLIFIED manner; particularly attending to those factors of IMPORTANCE, while innumerable other equally as conspicuous factors are left unnoticed as they appear as potential stimulus-object effects. The point to be made out of all this is that we SELECTIVELY PERCEIVE, and hence THINK ABOUT, stimulus-object effects; we consciously dwell upon that which is IMPORTANT to us, for whatever reason. More specifically, our sensory apparatus [even though many HYPOTHETICAL phenomena alleged to exist in our environments are not directly perceivable by us, and are thereby regarded as theoretical constructs (e.g., light waves, ids, egos, gravity, magnetic fields, etc.)] does enable us to POTENTIALLY perceive considerably more perceptions than we ordinarily, in fact, do. For example, while presently engaged in writing this paper, there are many external sounds of automobiles passing; yet they are not consciously heard (by the writer) (although they do affect the ear as sensation) for predominant attention is devoted to the task of actively writing. Certainly the organic mechanisms involved in hearing are operating, but CONSCIOUS attention is focused upon another matter of greater IMPORTANCE, thereby gaining precedence over concomitantly

occurring stimulus-object effects. Here we are confronted with the strange phenomenon of conscious reflection experientially over-riding bare, unimportant sense data that have the POTENTIALITY of arising (consciously) as sense perception. But apart from this specific example, there are many diverse manifestations of this SELECTIVE-perception phenomenon. Frequently, for example, during psychotherapy, a client will exhibit certain manifest behaviors without being aware of this fact until the counselor makes specific reference to the occurrences. Illustrations of this are when clients' hands tremble while they talk, or there are those who constantly smile while conversing, and so on. A final example of selective perception (although there are numerous others) is in the case of a student who has carefully read a poem and is quite confident that he has mastered its meanings, but much to his surprise, when in class, the instructor reveals an obvious, important consideration well within the student's realm of understanding that he had completely overlooked. We have cited three rather different illustrations of the familiar phenomenon of selective perception, varying primarily with respect to the level of complexity of the cognitively (potentially) perceivable component OMITTED from the cognitions that WERE (reflectively) consciously entertained. In the first instance, the perceptions of external natural sounds did not emerge into consciousness. The second case involved a client who was not aware of the fact that his hands were

trembling; no doubt resulting from a vaguely understood concomitant subjective psychological feeling of anxiety that subtly plagues the client during his reflective efforts. And third, there was the student who unwittingly failed to consider a unit of interpretative meaning that he had repeatedly entertained in prior reflections, while on the other hand, successfully managed to generate several equally as complex interpretations in his conscious experience. Thus in all three cases something potentially capable of perceptual or intellectual apprehension had been overlooked until either personally reflectively brought to attention at a later time, or ascertained with the aid of another person; then the previously overlooked factors were spontaneously understood by the subjects in question. These manifestations of unintentional perceptual omission could be regarded as resulting from the gradual development of PRECONSCIOUS and CONSCIOUS modes of HABITUATION. The writer, when overlooking insignificant external sounds, did not consciously and deliberately say to himself, "I am now going to write, therefore I will NOT admit external sounds into my conscious recognition"; nor did the client deliberately decide NOT to be aware of the fact that his hand was trembling while he sopke; and similarly, the student certainly did NOT decide to overlook an obvious interpretation of an assigned poem to be analyzed. From this, we may generalize that human behavior includes a vast number of similar habituational modes. Hence, even though

we could POTENTIALLY respond differently than we, in fact, actually do respond in almost any circumstance; such is rarely the case, for over the years human organisms gradually develop complex and interrelated patterns of both reflexive (or preconscious) and conscious habitual modes of behavior in accordance to FREQUENTLY REOCCURRING STIMULUS-OBJECT EFFECTS. For example we see the color 'red', the object 'table', the feeling 'pain', etc., and we reflexively linguistically characterize them; hence infusing these entities with subjective psychological meaning (i.e., rendering them personally intelligible). Similarly, we speak in linguistically coherent sequences, perform mathematically sophisticated calculations, experience personally meaningful relationships, etc., largely from the possibility of having developed innumerable constituative cognitive habituations, in principle, determinable as resulting from specific, recurrent STIMULUS-OBJECT EFFECTS /however, the first two selective-perception illustrations, and particularly the latter one (because of the arguments presented in our preceding discussions on the limitations of Behaviorism for comprehending human behavior) cannot be EXCLUSIVELY analyzed in terms of reflexive phenomena; rather, as we have seen, conscious awareness is a NECESSARY consideration in such an analysis. The point that is being suggested is that although a scientific psychology must, of course, view behavior in cause-effect relationships, our notions of what may qualify as causally efficacious agents must be expanded

to include not only natural factors, but ideational factors as well7. This basic HABITUATIVE character of human behavior will hereafter be expressed in the following technical manner: HUMAN ORGANISMS DEVELOP PRECONSCIOUS AND CONSCIOUS IDEATIONAL PROPENSITIES FOR RESPONDING TO GIVEN CORRELATIVE STIMULUS-OBJECT EFFECTS. Further, it is reasonable to assume that physio-chemical conditions underlie all possible mental events (loosely defined as consisting of 'a consciousness which stands over and against percepta or stimulus-object effects', the latter components of which issue from stimulus-objects LOCATED in either the concomitantly perceived natural world or personal bodily organism of the percipient himself). Therefore we can, in principle, maintain even a more general position in theoretically conceptualizing human behavior, namely: HUMAN ORGANISMS DEVELOP DETERMINATE ORGANIC PROPENSITIES FOR RESPONDING TO GIVEN CORRELATIVE STIMULUS-OBJECT EFFECTS OR STIMULUS CONDITIONS (a term defining a configuration of stimulus-object effects); PROPENSITIES, THEN, CAN MANIFEST THEMSELVES AS UNCONSCIOUS, PRECONSCIOUS, AND CONSCIOUS CLASSES OF BEHAVIOR. In this last refinement, we have extended our principle to include both physio-chemical and conscious organismic processes. The term 'propensity' (whether physio-chemical, preconscious, or conscious) will be attributed a meaning BEYOND that conventionally intended: i.e., over and above the definition 'a proclivity to behave in a certain determinate way', the definition will be

extended to define the ACTUAL ONTALOGICALLY OCCURRING PHYSIO-CHEMICAL, PRECONSCIOUS AND CONSCIOUS PROCESSES THEMSELVES IN THEIR PREDISPOSITIONED MODE OF OCCURRENCE. Thus the THREE basic classes of PROPENSITIES or habituations could be illustrated as follows: (1) a physio-chemical or ORGANIC propensity (which is in principle unknowable as direct experience from a subjective psychological perspective) would be, for example, the actual secretional process of a given bodily organ as it occurs as a function of given determinate stimulus-conditions; (2) a preconscious propensity would be a reflexive behavior as in the case, for example, of a given word which is spontaneously spoken without any significant amount of consciously deliberate effort (in contrast to the effort expended when originally learning to articulate words as a child); (3) a conscious propensity is a behavior that necessarily relies heavily upon conscious awareness, or what has been termed DENOTATIVE and CONNOTATIVE SYMBOLIC MEANING: e.g., where a person responds to the stimulus-object, 'Hello', by saying, "I'm fine, how are you?"; or in the more sophisticated situation where one's political contentions (often based on bias, for example, rather than reflective analysis) predisposes one to give stereotyped responses to typical questions (functioning as stimulus-object effects). These distinctions shall acquire additional meaning as the propensity-mechanisms are seen to function within the complete context of the comprehensive theory of human behavior being presented.

Of course it should be mentioned at this point, that since individual human organisms can be AFFECTED by stimulus-objects both on a sensational level /that level at which the mode of sensory stimulation is NOT consciously perveivable as subjective psychological experience; e.g., physio-chemical changes occurring in the retina, (as a function of external stimulation) that are not discerned as visual subjective psychological experience/, AND a perceptual level /i.e., that level known directly by us as subjective psychological experience (a phenomenon consisting of classes of percepta that cannot in principle be analytically ascertained from scrutinizing statements of their physio-chemical correlates. Further, subjective psychological experience is that class of phenomena which in principle cannot be adequately conceptualized in Behavioristic terms)7, a COMPLETE scientifically specified account of these EFFECTS is, for all practical purposes, impossible, although important progress can be made in this endeavor by the conjoint efforts of an objective and subjective psychology. Further, the many possible stimulus-object EFFECTS would also have to be systematically conceived in conjunction with a specification of an organism's PREDISPOSITIONAL modes for responding to given correlative stimulus-conditions; a task equally as difficult as rigorously specifying how an organism is AFFECTED by given stimulus-conditions. Thus in view of these very difficult methodological and experimental problems, we must conclude that our usage of theoretical

terms such as 'stimulus-object effects', 'propensities', etc., are portraying the human organism's functional states as they are IDEALLY conceptualized to occur within a complete, unified system existing within a determinate environment. What we shall often describe, therefore, in future discussion as seemingly evident relationships demonstrated by organismic mechanisms are only dimly understood in terms of satisfactory experimental verification. Complex functional relations among the dynamic physiochemical processes or organisms' constituent mechanisms can, at best, be comprehended in probability terms. In fact, there are many researchers who feel that the possibility of expressing human behavior in exact scientific terms is sheer folly (this issue is discussed in Ernest Nagel's book, The Structure of Science[76]). However, for our purposes of philosophical analysis, and further, of attempting to better understand the nature and interrelations among causal determinants of human behavior, this paradigm model will be of great theoretical value. Moreover its utilitarian value will provide a practical instrument for formulating hypotheses suitable for empirical enquiry.

Implicit within the bare (theoretical) statement 'Human organisms develop determinate organic propensities for responding to given correlative stimulus-object effects or stimulus-conditions' is the fact, of course, that a vast

---

[76]Nagel, The Structure..., op. cit.

multitude of integrated organic functional processes, occurring LOGICALLY prior to emergent conscious and reflective conscious mental events as concomitant unconscious processes, are presupposed as necessary conditions for the possibility of such high-ordered emergent phenomenal manifestations. Therefore, as Skinner has partially suggested (but for different reasons), it seems plausible to assume that (in principle) the physio-chemical conditions underlying all types of mental events are a direct causal function of BOTH TEMPORALLY AND LOGICALLY (a point that will be explained as we proceed) ANTECEDENT organic functional processes whose origin could conceivably be traced ultimately to the effects of the stimulus-conditions that had originally stimulated the resultant processes. Hence, let us think of a VERY long chain of physio-chemical functional reactions that begin with the initial EFFECTS of any given stimulus-condition, and frequently culminate as very high-ordered physio-chemical conditions, directly underlying correlative mental events. Typical illustrations of this theoretically possible emergent culmination are the subjective psychological states to which the following statements refer: 'I burned my finger', 'The tree is brown', 'My thoughts about this issue are...'. However, there are also a great number of organic reactions to stimulus-conditions never reaching the level of consciousness, e.g., homostatical processes, etc.; changes in these states are obviously not directly accessible as conscious perception in the same way

that we perceive pains or thoughts.

Now with respect to our former comments about unconscious (organic), preconscious and conscious propensities, /including the three illustrations where the writer was attending to his writing (stimulus-condition) and not to the sounds of passing automobiles; when the client was concentrating upon his thoughts (stimulus-condition) and not his trembling hand; when the student was reflectively executing certain poetic interpretations (stimulus-condition) while unwittingly excluding others7, we may say that when a human organism responds to the effect of a given stimulus-condition the organism must necessarily bring to bear all of its relevant ORGANIC PROPENSITIES upon the corresponding stimulus-condition affecting the organism at that time. In effect, the stimulus-objects are "DEMANDING" the most sophisticated response of which the organism is capable (at a given time), and the relevant brain neurology and other physio-chemical mechanisms are functionally activated in order to meet the "demands" posed (at that time). Here the writer is stressing solely the physio-chemical MECHANISTIC aspect of human behavioral response phenomena and omitting any reference to conscious causality and its relationship to physio-chemical processes (it should be noted that this mode of analysis is valid for it is being conducted from an 'empirical identity' frame of reference; that is we are maintaining that mental events have physio-chemical correlates that are in principle ascertainable

through empirical procedures, and thereby arguing AS IF this information were available). The model as it is developed heretofore bears close resemblance to the operation of a computer (although a computer does NOT have anything like subjective psychological states) in the sense that (assuming the device is functioning properly) one could equate, in a very general way, what has been defined as stimulus-object EFFECTS (appearing as contemporaneously delivered data) with data cards fed into the already programmed computer (i.e., the pre-established form to which the stimulus-object effects will be subsumed). The PROGRAMMED FORM could be roughly equated to what we are defining as percepta representing the wisdom of the past. Thus when the computer is activated, it necessarily executes its prescribed modes for processing the input data; it does not "hesitate", "choose not to perform its task", etc. The output information is a result of BOTH a product of the input data AND the program. Similarly with respect to certain manifestations of human perception and thought, we frequently perceive and think in a spontaneously MEANINGFUL way (even though human beings COULD, in protest, close their eyes, for example, or refuse to think for a short period of time).

One may ask at this point, if the writer WAS capable of hearing the sounds of passing automobiles; if the client WAS capable of perceiving his trembling hand; if the student WAS capable of understanding the interpretation that he over-

looked, why did they not do so? The answer to this question, as it relates to neurological "blocking" of some processes and "admittance" of others, is ultimately a matter to be empirically resolved and cannot be answered by mere logical analysis. However, the phenomenon does suggest an important hypothetical construct, viz., one which we shall define as PERCEPTUAL FIELD. In the three previous examples, even though the subjects in question were entirely capable of comprehending the "overlooked" considerations, the fact of the matter was that they did NOT do so while responding to the original stimulus-conditions. We may interpret this by saying that (again speaking with a mechanistic emphasis) the stimulus-conditions did NOT activate those organic propensities (a term designating ALL the relevant physio-chemical mechanisms and processes activated by appropriate correlative stimulus-object EFFECTS) corresponding to the mental event-components 'sounds from automobiles', 'awareness of trembling', 'realization of an interpretation which conceives the poem as...'. Whether this situation was a result of the insufficient intensity of the original stimulus-object EFFECTS affecting the organism, or to neurological "blocking" mechanisms, is not an issue that can be settled here (although at present state of scientific knowledge with respect to complex problems of this type, it would be very difficult to provide even a tentative answer for this empirical question). Rather we can better comprehend the problem in terms of the construct defined as 'perceptual

field'. It has been said that this construct refers to organisms' predispositioning for selective perception. If organisms responded to all the stimulus-object effects of which they are capable of consciously entertaining as perception, great dysfunctioning would result. However, because of their selective perception capacities, they need only conjure those organic resources that tend to facilitate efficacious behavioral modes, or promote those behaviors that are deemed as personally IMPORTANT to an individual. Thus in the three previous examples of selective perception it was seen that all subjects executed behaviors of which they were CONSCIOUSLY AWARE; some demonstrated behaviors (in the first two examples) of which they were UNAWARE (i.e., at THAT time); and in the third example, cognitive associations that the student was capable of making without additional learning, were overlooked. Therefore the stimulus-object effects involved in stimulating each subject activated organic propensities that (in all cases) culminated in mental event-components, and other propensities that did not reach the stage of awareness. The ones that did become mental event-components, precisely because the subjects DID have conscious and reflective conscious perceptual access to them, were available as personally accessible stimulus-objects (viz., as ideas) capable of causally influencing the subjects' behavior; but the propensities not emerging as event-components were NOT available to the subject as causally effective ideational instruments. Although this

is an abstract way of stating the matter it actually amounts to saying the following: that the client, having conscious and reflective conscious AWARENESS of the thoughts occurring within his head concomitant with other relevant internal and external perceptions, could causally influence his behavioral responses to the counselor on the basis of these ideational and perceptual data. He was not aware of his trembling, and hence continued to tremble without realizing it. However, if the counselor INFORMED the client of his trembling behavior, he would have made a determined effort to terminate the behavior. The new information, because of the client's CONSCIOUS AWARENESS of it, would function as a stimulus-object capable of directly influencing his successive behavior. The trembling had, no doubt, developed over a long period of time as a PRECONSCIOUS habitual or reflexive response to a particular correlative stimulus-condition; originally having had, perhaps, clearly ascertainable (conscious) anxious dimensions whose specificity diminished with the passing of time, leaving as conscious remnants, only a negative habituation of trembling and a pervasive though vague subjective psychological feeling of anxiety. The illustration of the student exemplified an instance of CONSCIOUS HABITUATION such that the student may have gradually developed, for example, a relatively stereotyped method for analyzing poetry, without making a determined, reflective effort to broaden or render more profound his mode of analysis. Here we have instances

only of NEGATIVE habituation, but there are also many typical examples of POSITIVE habituation in individuals' daily behavior; e.g., speech, perceptual interpretations, thought modes, walking, etc. It can be seen from this that thought, as we know it through direct acquaintance, could not be possible at all without well-established positive habituations. The concept of PERCEPTUAL FIELD, then, refers to those stimulus-object EFFECTS which emerge into our consciousness as PERCEPTIONS and thereby become potentially efficacious as behavioral determinants. On the other hand, as portrayed in the examples on selective perception, there are those stimulus-object effects that we do not consciously entertain (and hence reflect upon), thereby effectively CONSTRAINING our behavioral responses to well established preconscious and conscious habituations. To transcend the adverse influence of negative habitual behaviors, (initially) their efficacious occurrence as behavioral determinants must be made generally evident to the subject who executes the undesirable behaviors, hence, enabling the subject to understand the negative effects with sufficient conscious clarity that this recognition will act as a stimulus-object to initiate a more suitable program for relearning an alternate pattern of response-behaviors. This is to say (in one sense) that a new stimulus-object, capable of producing more desirable behavioral responses, has entered into a subject's perceptual field.

Here we are very close to the essence of constructive

therapy and learning, both of which are moderately systematic endeavors to facilitate the development of qualitatively more suitable responses to given problematic or unfamiliar stimulus-object effects. These enterprises involve (basically) broadening an organism's perceptual field so that newly developed responses to novel stimulus-object effects can become more precisely discriminative about the distinctive nature of given stimulus-object effects, and the relationships among unfamiliar stimulus-object effects with those that are already relatively familiar to the subject. By broadening individuals' perceptual field, given stimulus-object effects conjure an increased number of (and often qualitatively better integrated) organic propensities to consciousness, thereby increasing the number of ideational stimulus-objects that can, in turn, conjure other relevant information, and so on. This amounts to saying that with a broadened perceptual field, given stimulus-object effects can conjure more wisdom to come constructively to bear upon the effect, hence promoting the INTERRELATEDNESS between relevant aspects of the present occasion and previously INTEGRATED learnings. In therapy the most difficult task is often that of clearly revealing the precise nature of the adverse stimulus-object effect, and more important, in assisting the client to become sufficiently (cognitively) clear about the negative effect to REFLECTIVELY initiate HIS OWN program for effective relearning. Typical learning, however, differs from therapy in that less effort is required for transcending negative modes of habituation,

prior to constructive learning (or relearning). Rather, the major emphasis in novel learning is on increasing the amount of wisdom that can be conjured to any given stimulus-object effect; that is, increasing the amount of INTEGRATED, OPERATIONALLY INSTRUMENTAL INFORMATION that can be brought to bear upon a given problematic situation. Therefore, in broadening a perceptual field, there is an increase in the number of qualitatively subtle EFFECTS that a subject can CONSCIOUSLY PERCEIVE in a given stimulus-situation. Stated differently, the stimulus-object effect activates a greater number of organic propensities that, in turn, emerge into consciousness as an increased amount of wisdom available to the subject for more profoundly comprehending the stimulus-object effects. In progressively broadening perceptual fields, quantitatively more potential causal factors can enter into a decision-making or problem-solving situation, hence generally, qualitatively enhancing resultant decisions or solutions, for more variables are considered. In expressing this view we are merely stating, in more contemporary terms, the Socratic - Platonic adage, 'knowledge is Virtue'. The fact frequently overlooked in this view is that knowledge is not merely regarded as an accumulation of unrelated facts. Rather, the concepts of RELATEDNESS, and HARMONIOUS INTEGRATION OF BEHAVIORAL PROCESSES are intrinsic to this ancient Greek concept. In short, the notion of 'WISDOM' is the only suitable term to characterize the quality of information that is

gradually acquired, and carefully reflectively analyzed, to ensure maximal integration of cognitive factors in a way concordant with concrete experience. Similarly the term 'VIRTUE' --- defined as doing something and doing it well --- accurately characterizes the functional nature of the high-grade consciously reflective processes (with their underlying physio-chemical correlates) involved in executing highly intelligent response-behaviors, through making effective usage of contemporaneous stimulus-object effects and previously acquired wisdom. As we become more familiar with the unified behavioral model being developed, it will be seen that these classical concepts are inextricably a part of the configuration of theoretical constructs designed to comprehend the logical form of human behavior as it is contemplated by a subjective psychology (a model, moreover, not irreconcilable with an objective psychology).

Also with reference to the 'perceptual field' construct, it is extremely important for psychologists and educators to understand that broadening individuals' perceptual fields is only the initial phase of a two-phase process of education (or re-education). First, as it has been said, formerly unexperienced stimulus-object effects should be gradually and systematically introduced to an individual's perceptual field to increase the number of ideational stimulus-objects that are personally accessible for promoting cognitive interrelatedness among relevant perceptual components; thereby predisposing the individual to yield qualitatively

better responses. Clearly, however, the mere introduction of novel stimulus-object effects into one's perceptual field does not always guarantee that these effects will be harmoniously integrated with an organism's previously established configurations of propensities -- in fact it more frequently results in promoting behavioral dysfunctioning. Therefore, it is absolutely imperative that the EXPERIENTIAL INTEGRATIVE efforts exercised by the organism be conducted under the careful guidance of trained personnel. The latter can facilitate this process by capitalizing upon the constructive efforts of individuals who are EXPERIENTIALLY INVOLVED in gradually attempting to consistently synthesize newly acquired information with previously established wisdom, to promote more virtuous behavioral functioning. Thus in conjunction with personally initiated efforts, an observer must be careful to see that these integrative measures are achieved in a suitable developmental sequence such that no important phases are omitted. Therefore, beyond introducing merely disruptive stimulus-object effects into individuals' stimulus-field and hence increasing the probability that many negative habituations will be formed to cope with sources of novel stress, it is necessary to see that appropriate propensities are developed to reconcile these unique factors with organisms' established wisdom in order that maximal functional virtue is behaviorally achieved. When attempting to modify preconscious reflexive behavioral modes, engineered programs for

systematically introducing stimulus-object effects into a subject's perceptual field will be more successful for modifying behavior, because the mechanism of reflective consciousness is often not a causally potent instrument for changing spontaneous (reflexive) behaviors. This type of problem lends itself well to the conditioning procedures of an objective psychology. In any case, whether systematic behavior modification entails the predominate usage of subjects' reflective capacities, conditioning techniques or a combination of both approaches, undoubtedly the most important consideration is that subjects be deeply EXPERIENTIALLY INVOLVED AS ACTIVE INSTRUMENTS OF THEIR BEHAVIORAL CHANGE. Similarly, those individuals facilitating this change should be vicariously involved, keeping in mind, however, that the ultimate locus of cognitive integration resides within the experiential efforts of the subjects desiring behavioral change. Since it is not the purpose of our discussion to analyze systematic means for behavioral modification, our aforementioned comments on the topic were undeveloped and are thereby necessarily inadequate.

It should be noticed, before we extend our investigations to formulating additional constructs, that in much of what has been recently said, the formerly introduced metaphorical characterization of intelligent behavioral growth as being a cyclical process of moving from vague-to-clear understanding, was pervasively implicit. Most of the preceding discussion of constructs for the behavioral model

have been primarily intended to serve as an INTRODUCTION to a more elaborate and precise ensuing exposition. The reader is, in fact, being asked to make a significantly important "conceptual shift" in contemplating human behavior, in contrast to most current behavioral theories. A task of this nature is unquestionably difficult and further complicated by the fact that a position such as the one presently being propounded cannot satisfactorily be understood until the system is pondered (at length) in its entirety, and then compared with other competing theories.

When a human organism is affected by an internal or external environmental change (or experiences the ingression of stimulus-object effects), all relevant physio-chemical organic mechanisms or propensities react to the change (or are brought to bear upon the stimulus-object effects). Involved in this phenomenon, are an almost incomprehensibly large number of physio-chemical sensory and neurological process, in addition to a multitude of "supportive" relevant organic mechanisms and processes (e.g., homostatical mechanisms and processes, etc.) not directly involved with high-ordered behaviors (e.g., emotional and ideational activity). In the sequential execution of these organic processes, beginning with the original stimulus-condition, we may in principle conceive of relevant organic mechanisms whose thresholds for activation have been exceeded hence causing their unique function to be executed, which in turn provides the necessary conditions for the activation of other

relevant mechanisms, and so on. Here we begin to appreciate the cybernetic "flavor" suggested by a massive, highly integrated or interconnected organic-functional system comprised of organic mechanisms existing in crucial proximity with one another; each mechanism conceived as operating individually and with a society of similar mechanisms, (individually or collectively) capable of executing a specific "task", given the appropriate stimulus-conditions. Also, in turn, each or the society of mechanisms, upon having performed its "task", will yield stimulus-object effects (or "notification of completed tasks") ingressing, as stimulus-conditions, into the constitution of successive mechanisms and societies of mechanisms, hence promoting sequential activation. In all this, there are the implicit notions of transmitted activation and hence progressive propagation of physio-chemical processes, that synthetically coalesce to a stage of unconscious integration; then to a preconscious reflexive stage; to a directly (but vaguely) consciously experienceable level of organic bodily and emotional feeling; and finally to the two highest-ordered stages of clear consciousness and conscious reflection. This developmental coalescent process will hereafter be technically defined as CONCRESCENCE.[77, 78] The phenomenon

---

[77] Whitehead, Adventures of..., op. cit., p. 237.

[78] Paul Oppenheim and Hillary Putnam, "The Unity of Science Working Hypothesis," ed. Feigl, Scriven, and Maxwell, II, pp. 3-36.

could be described cybernetically as the CONCRESCENCE OF ORGANIC PROPENSITIES IN RESPONSE TO THE INGRESSED EFFECTS OF STIMULUS-OBJECTS. This characterization represents a terminologically simple, yet highly flexible and precise way of (in principle) comprehending vastly complex organic processes. Implied within this novel descriptive mode are such central scientific objects and constructs of physiology and mechanistic biology as 'threshold'; 'binary "GO or NO GO" cerebral mechanisms'; organic mechanisms such as 'cells' and other vital bodily organs; 'neurons'; 'synapse'; and so on. Further, since it is presupposed that the nature of these entities and their relational processes can be exhaustively explained in mechanistic biological terms, they are hence rendered amenable to mathematical and statistical modes of formal relation. However, it is the view of this writer that the theoretical model being proposed in this paper, while defined in terms that are concordant with and complimentary to traditional mechanistic (though not materialistic) scientific theories, is by no means completely explicable in terms of these theories, due to the reasons stated in "Chapter One".

When organic concrescence reaches the level of development where primitive emotional feeling occurs, the first necessary condition has been satisfied for the resultant organization of what has been generally described as emergent mental processes. This initial emergent stage, as well as those higher-ordered succeeding stages, provide us with

striking evidential proof of an ontalogically unique realm of phenomenal being. Mental phenomena are the emergent, FELT PRODUCTS of an indeterminately complex human physiology as they are successively disciplined through interpenetrative relations with inner and outer environments.

When it is said that a highly complex, integrated human physiology generates an ontalogically distinct class of phenomena, we are in a sense lead to an interactionistic viewpoint of the relation between mind and body, but one of a special type. When considering a single mind we may think of a SINGLE train of physio-chemical processes occurring in a brain, BUT A SERIES OF PROCESSES (FUNCTIONING AS STIMULUS-OBJECTS) YIELDING EFFECTS THAT ARE DIRECTLY PERCEIVED THROUGH TWO LOGICALLY DISTINCT MODES OF PERCEPTION, BOTH OF WHICH ARE NECESSARLY GROUNDED IN WHAT HAS BEEN DEFINED AS MENTAL OR PRIVATE EVENTS. First there is the (directly perceivable) intersubjectively verifiable way of observing natural neurophysiological phenomena, viz., through the external bodily senses. Secondly there is the direct mode of perceptual apprehension available to only the subject within whose head the neural processes occur, viz., by consciously perceiving his own mental states as they emerge as stimulus-object EFFECTS from the neurophysiological processes occurring in his head (emerging as disciplined symbolic feeling as a result of their enormous complexity and integration). However, as it has been formerly argued, BOTH perspectives are ultimately contingent upon A MIND for their very possibility as intelligible percepta; hence,

mind must be an A PRIORI presupposition in any discourse on the matter. The conclusion to be drawn from this is that ALL HUMANLY PERCEIVABLE EVENTS MUST, IN PRINCIPLE, BE PRIVATE EVENTS. Thus the statements, 'This is the electro-encephalograph wave pattern representing those physio-chemical states empirically correlating to subject A's feeling of sadness' and "I (i.e., subject A) feel sad" are both statements that refer to two distinct categories of EVENT-COMPONENTS, both of which necessarily presuppose a mind for the possibility of their perceptual apprehension. The first category refers to directly perceivable phenomena which are intersubjectively verifiable. The second category, however, can be directly verified only by the subject within whose physiology the event occurs. But the ontalogical train of physio-chemical occurrences to which both categories of statements ultimately refer are those transpiring within subject A's brain neurology. In saying this we will not have to submit to the position of idealism for reasons to be introduced in "Chapter Three".

To return once again to the topic of those first infantile, primordial mental states, viz., undisciplined emotional feeling, let us say that these are indicative of an organism's first, most primary reaction to a given stimulus-object effect. These feelings are spontaneous, symbolically unclarified in their original mode of occurrence, and not generated by or contingent upon thought. Included in this lowest emotional stratum are such primitive

phenomena as "fight or flight" states. We might speculate that feelings on this level are the amorphous psychological states that constitute the vague, sporadic emotional consciousness of infants (not that infants entertain only "fight or flight" states that are intrinsically spontaneous and intense, for there would be other emotionally more tempered and qualitatively different types of experience as well).

The next level of spontaneous emotional reactions, however, become -- at least when symbolically mature mentalities experience them -- progressively colored by former intelligently comprehended (hence retained as memory) experience. For example, our initial immediate reaction to a loved one presupposes a multitude of prior learning, e.g., a knowledge of the loved-one's personality, the meaning of the term 'love', the concrete experiential information derived from prolonged interaction with the loved person, and so on. The highest manifestation, perhaps, of this form of spontaneous emotional - intellectual experience would be in asthetic intuition, or the "I Thou" experience about which Martin Buber speaks. But at less sophisticated levels, spontaneous emotional reactions are, generally (though vaguely), indicative of the way our entire (unconscious-to-conscious) relevant organism responds to a given stimulus-object effect. Throughout our conscious and reflectively conscious awarenesses, these emotional reactions concomitantly accompany all ingressed stimulus-

object effects. Their topology is highly variable. Most frequently, our emotional reactions to stimulus-conditions as they present themselves in daily life are relatively neutral. However, as in the cases of "fight or flight", intense intellectual involvement with some matter of interest, romantic experiences, and so on, there is considerable topological variability in emotional substrata. But in most cases, however, the emotional dimension of experience, subtly persisting throughout conscious and consciously reflective experience, remains unscrutinized. The previous example demonstrating selective perception, where the writer was unaware of the sounds of passing automobiles, bears some moderate analogy to our infrequent reflective examination of subtle emotional event-components that concomitantly accompanies ideational activity (although the former example dealt with natural world perception as distinct from internal bodily percepta). Some therapists, for example, (as in the case of this writer) emphasize counselor-client scrutinization of mutually occurring emotional-intellectual reactions to reciprocal stimulation while in therapy as an extremely valuable practice, for it is hypothesized that in developing a personal facility to clearly discriminate among dynamically emerging emotional states in their intense spontaneity as a direct function of predetermined and undetermined ingressed stimulus-object effects, individuals can progressively better understand their modes of preconscious and conscious habituation.

Thus from making these reflective discriminations, many formerly unnoticed and/or unclarified stimulus-object effects -- effects to which (perhaps) undesirable responses were unwitting habitually made -- are raised to the level of conscious experience; hence broadening individuals' perceptual field. Beyond this, with additional innotative reflection, more appropriate, harmoniously integrated and personally fulfilling behavioral responses can be developed with respect to given stimulus-object effects.

The next successive extension beyond the notion of spontaneous, primordial, symbolically undisciplined emotional feelings is the cybernetic view that these primitive mental emergents are the synthetic culminants of an ORGANIC concrescent, almost instantaneously reflexive process, beginning with the ingressed effects of stimulus-objects that activate (as sense data) relevant organic perceptual mechanisms. The mechanisms thereby transform the effects into physio-chemical equivalents or analogues which are then synthetically united, in an extraordinarily complex concrescent process, with physio-chemically stored "wisdom"; the synthetic product resultantly emerges as a conscious experiential (perceptual) event-component. It is nearly impossible to conceive of an organism whose structure is so complex and integrated that it can yield mental phenomena, apart from the fact that years of disciplining are required for developing the functional harmony among organic mechanisms to the extent that their collective functional inter-

relations acquire sufficient refinement to produce high-grade intelligent, innovative mental events. All this, of course, is not even to mention the many millennia required for the development of the human organism.

Through exercising conscious reflection, we can to a great extent symbolically (linguistically) explicate the directly perceived experiential nature of our subjective psychological states. In light of this possibility let us specify some of the universal characteristics intrinsic to the emotional sub-strata of our personal, inner ideational experience. At this point in our discussion, essentially four major attributes may be determined. First it can be said that emotional feeling is the basic medium for the eventual development of higher-ordered cognitive processes in that sophisticated ideational experience IS disciplined (hence greatly sublimated) emotional feeling. A brief argument for this position was presented in our former analysis of symbolic behavioral development. Second, that emotional feelings considered in their own right are essentially vague and undisciplined; however, they can be gradually symbolically disciplined (defined, organized and clarified) via the mechanism of conscious reflection. Third, feelings are the vaguely conscious manifestations of organism's spontaneous reaction to stimulus-object effects. Implicit in this statement are some very important indications of organism's functional virtue as this is demonstrated by the kind of qualitative response that a human being

elicits with respect to given stimulus-object effects. This is to say that individuals' immediate emotional reaction to certain types of stimulus-object effects are often indicative of the "best" and "worst" organic (unconscious physio-chemical), preconscious (reflexive), and conscious (ideational) propensities that are HABITUALLY brought to bear upon given stimulus-occasions; hence providing an index of the over-all functional efficacity of an organism's harmonious response-capacity. From this, those of us who are psychologists and educators, for example, can come to make determinations about the breadth of client's or student's perceptual field. Thus we may conclude on many given occasions that an individual's perceptual field is insensitive (hence overly exclusive) to certain determinate stimulus-object effects, whose probable ingressional influence, if properly incorporated into an individual's relevant scheme of positive behavioral habituations, would increase his overall behavioral efficacy in solving problems; hence, specific schedules for stimulus-object ingression could be planned that would, in effect, increase the PERCEPTUAL SENSITIVITY (with respect to given predetermined effects) of the individual's perceptual field. As a result of being better able to discriminate amongst various relevant stimulus-object effects, the subject in question is rendered more capable, with a determined reflective effort, to reconcile novel (and perhaps, initially, functionally disruptive) stimulus-

object effects with his already operationally established behavioral modes, for he possesses an INCREASED CONSCIOUS AWARENESS of those factors (effects) that had been adversely controlling his behavior without his realization. Fourth, feelings are the initial manifestations of any phenomena that could be minimally defined as mind [this designation would apply, also, to lower-ordered organisms, which are said to experience similar primordial emotional states. However, this claim must be essentially inferential for we have no way of directly verifying such a claim (i.e., perceptually) in subjective psychological experience].

Let us consider, once again, the nature of habits. Our conception of habits and their formative development has much in common with John Dewey's view of habituative behavior. In certain formerly considered quotations extracted from Dewey's writings, it was seen that he argued that reflective thinking occurs when previously established behavioral habits are no longer adequate to meet the "demands" of novel stimulus-conditions. For example, a factory worker who has repetitiously performed a particular task for several years generally experiences some difficulty when he is required to work at a completely different job. He must, in effect, develop an importantly different set of preconscious and conscious habituations to effectively perform the tasks of the new job. Another example, on a much more sophisticated level, is in the case of Immanual Kant, the famous 18th century German philosopher, where he

personally remarked that basis for having written the monumental Critique of Pure Reason was predicated upon the fact that after having persistently contemplated the major philosophical problems of his time in a relatively conventional manner, (quite) suddenly as a result of formulating a novel approach to conceptualizing various problematic issues (in consequence of PROLONGED, INTENSIVE REFLECTION on these matters), Kant was able to transcend what he regarded as his "dogmatic slumber".[79] He was able, from his novel perspective, to contemplate traditionally conceived philosophical problems within a dramatically new theoretical framework, thereby transcending the constraining cognitive habituations of his less innovative philosophic contemporaries by casting new light on these issues. These illustrations accentuate our view that as new stimulus-object effects ingress into one's perceptual field, thus, in varying degrees, disrupting an individual's habitual response efficacy, CONSCIOUS REFLECTION must be invoked in order to supercede formerly established, but presently dysfunctional, modes of habituation. Contemporary problematic circumstances require that expanded, more efficacious modes for satisfactorily meeting the "demands" of present stimulus-occasions be developed as correspondingly new positive habituations, in order to maximize functional virtue. Dewey argued that if it were not for an organism's capacity to

---

[79]Norman Kemp Smith, Immanual Kant's Critique of Pure Reason (New York: St. Martin's Press, 1965), pp. 7-37.

synthesize novel cognitive associations, intelligent thinking-behavior could not proceed to achieve increasingly higher levels of understanding.

With reference to the behavioral model being developed, a view maintained by this writer is that all conscious thought has its origins ultimately in vague, amorphous emotional feeling, and that over a long period of symbolic (primarily linguistic) disciplining, the originally unorganized, sporadically intense emotional experiential character of primitive mentality is lost or dissipated merely because experiential recollection fades as a function of temporal passage; but more important, the experiential intensity is gradually SUBLIMATED essentially for the reason stressed by Cassirer:

> No longer can man confront reality immediately; he cannot see it, as it were, face to face. Physical reality seems to recede in proportion as man's symbolic activity advances. Instead of dealing with things themselves man is in a sense constantly conversing with himself.[80]

To use the metaphysical terminology of Aristotle, symbols impose 'form' on primordial, unorganized experience corresponding to 'matter'. Thus as ideational development proceeds, there is a marked increase in the sheer number of forms or symbols, and hence in linguistic sophistication, because the necessary conditions for MEANING-AS-DIRECTLY-FELT-RELATEDNESS -- namely, consciously understood symbolic

---

[80] Cassirer, An Essay..., op. cit., p. 25.

RELATEDNESS -- are progressively being fulfilled. The web of linguistic interconnections is being rendered increasingly elaborate as unrestrained, raw emotional experience is steadily subsumed to symbolically discipline. This means that in mature, adult intelligent behavior, our thoughts are constituted by predominately linguistic symbolic 'forms' that can be clearly consciously conceived. The "pure matter", or originally unorganized experience, has been long forgotten. In fact, it could never be clearly recalled for symbolic disciplining is a necessary prerequisite for such clear comprehension and hence recall. But in a very definite sense the 'form-matter' distinction still applies to human experience regardless of how symbolically sophisticated our experience may become: that is, regardless of the extent to which our experience may undergo formalization -- thus emotional sublimation --, unsymbolized emotional elements or 'matter' will still be experientially present in ideational processes. This is to say that all private or mental events are directly experienced UNITIES. The basic fact of private events is that all their possible event-components are experienced in their UNIQUELY FELT RELATEDNESS as well as in CLEARLY PERCEIVED SYMBOLIC RELATIONSHIPS to one another. Among other relevant ramifications of this point that will be developed as we proceed, the preceding conclusion indicates that many of these event-components can be readily linguistically comprehended, while other, more subtle and inextricably unified emotional components cannot

be adequately symbolized due to their nebulous conscious nature. This fact was made clear in a previous illustration, proving that regardless, for example, of the precision and eloquence exercised in one's attempt to fully characterize the experience of savoring a fine steak, the verbal characterization of the pleasurable direct experience could not be as concretely informative as the actual experience of consuming the steak itself. This illustrates the applicability of the 'form-matter' distinction in that in any private experience, particularly a highly sensuous one, there are many aspects of it that can be symbolically or formally comprehended, but also there are other dimensions which because of their emotional primitiveness and intuitively unitary nature are perceivable only as direct, dynamically ephemeral experience. This latter dimension, involving a subtly concrete, emotional understanding of certain event-components, can occasionally (though inadequately) be linguistically clarified.

Also there is a less nebulous, vaguely symbolic aspect to human experience referring to the CONNOTATIVE SYMBOLIC MEANING implicit within the LINGUISTIC SYMBOLS, used to reflectively clarify, and hence discipline our experience at all levels of development. Both the purely emotional and vague symbolic aspects of mental events embody those portions of human experience demonstrating the quality of consciously pervasive, though nebulously profound familiarity of one's intimate relation with components of reality;

this has been technically defined as MEANING-AS-DIRECTLY-FELT-RELATEDNESS. This is an extremely important portion of the 'matter' of experience. Beyond the fact that this dimension of linguistic symbols introduces the substantive EXPERIENTIALLY MEANINGFUL QUALITY to subjective psychological awareness, it (in distinction from denotatively clear symbolic components) provides a resource for suggesting novel modes of thought that can be ascertained and hence developed through reflective analysis. The point of this present discussion is that BOTH the substrata of presymbolic emotional and vague symbolic experience, considered together, ARE those ASPECTS of subjective psychologically meaningful linguistic symbols formerly defined as CONNOTATIVE symbolic components or MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Further, this synthetically compounded domain contains all of the relevant learned wisdom of the past as it has been permanently recorded in given cerebral mechanisms, awaiting conjuration to a contemporary conscious occasion whereupon it will constructively unite with denotative symbolic elements in meaningfully characterizing the occasion. Thus the development of complex symbolic phenomena, with their extraordinary capacity for meaningfully enhancing the intrinsically barren perceptual deliverances of the ever-emerging present through synthetically introducing the symbolically embodied wisdom of the past, leads to precisely the condition that Cassirer had designated when he said, "No longer can we confront reality immediately.... Instead of dealing with

the things themselves man is in a sense constantly conversing with himself."[81]

Now it may be asked, When we engage in reflective thinking, what sort of cognitive resources do we have to draw upon in our effort to effectively engage in problem solving? One certainly does not always analyze primordial emotional feelings when engaging in reflection. This whole topic, intrinsic as it is to the very essence of human thought, can only be briefly discussed at this time in an introductory manner for the necessary theoretical constructs appropriate for rigorously analyzing this process have not yet been presented. An elaborate discussion of this problem will transpire in "Chapters Three" and "Four". However, let us say at this point that our responses to stimulus-conditions can obviously be of variable quality in terms of effective problem solving. It has been said that there are unconscious, preconscious and conscious modes of habituation, only the last mode of which we typically regard as including conscious and reflectively conscious thinking. Conscious habituations involve, it will be recalled, generally stereo-typed thought modes in response to familiar stimulus-object effects: for example, the usage of linguistic symbols in spontaneously executed verbalizations; and in such standard expressions as 'good morning', 'my name is...', 'Republicans comply to the sentiments of big business while

---

[81] Ibid., p. 25.

Democrats attend to the needs of the common man', 'Negroes are naturally inferior to Whites', 'the pythagorian theorm formula is $a^2 = b^2 + c^2$', etc. In short, conscious habituations are standard repetitive ideational responses conjured by frequently reoccurring stimulus-object effects, that individuals have learned to spontaneously execute without ever really having seriously subjected the (often naive, or deceptively profound, or erroneous) implications of these cognitions to analytical reflection.

Beyond the domain of conscious habituation there is the general, qualitatively variable (although it should be noted that these categories are obviously highly relative to an organism's maturational level) realm of consciously reflective habituation. An example of this is in the case of many academicians who have been comprehending their areas of intellectual enquiry in terms of a set theoretical viewpoint year after year without ever seriously questioning the presuppositional (or axiomatic) grounds upon which their theory is predicated, or seriously considering the logically compelling features of other competing theories that are addressed to similar areas of concern. Granted, these individuals do frequently consult relevant personal experience in problem-solving, and often "academically" entertain various other types of hypothetical explanations (and moreover, frequently have access to considerable factual information that can be quickly conjured to vindicate cherished modes of enquiry), but nevertheless, there remains a basic

insensitivity or apathy (with regard to submitting logically primitive premises or given theoretical constructs to critical scrutiny) to revising theoretical formulation that more concordantly fit the directly perceivable facts delivered in concrete experience. Similarly, the situation is basically the same in disciplines where individuals work in accord to often well-defined "mental sets" that delineate the problematic areas to contemplated and the methodological manner in which problems are resolved, while theoretical and methodological presupposition (or the far reaching implications of given disciplinary enterprises for other areas of human affairs) remain reflectively unanalyzed. However, the writer does not wish to imply that this mode of high-ordered habituation is necessarily (or even frequently) perverse. Actually, the substantial portion of all intelligent human productivity can be subsumed to this category of habituation; one involving intelligent thinking, to be sure, in that the IMPLICATIONS OF ALREADY ESTABLISHED principles are pragmatically and systematically carried out in innumerable fruitful and tangible ways. This is, in effect, an "engineering" level of intelligence.

However, there is still a higher, optimally productive level of intelligence in which the human mind exercises the depths of its rational resources in order to increase its understanding of the fundamental features of perceptually given aspects of reality. This most advanced level of understanding is one where the human mind adopts a HABITUALLY

CRITICAL, CONSTRUCTIVELY REFLECTIVE ATTITUDE toward problem-solving. Here, great reflective sensitivity is demonstrated in attempting to understand the precise implications of concrete experiential deliverance. The mind, with extraordinary exactitude, is able, in reflection, to symbolically discriminate between those concepts which precisely characterize given aspects of perceptual experience, and those that only partially or even seriously misrepresent experiential testimony. Of course, in EXPLAINING phenomenal occurrences in terms of functional relationships, we quickly transcend the cognitive act of mere description: habitually implicit (i.e., those that are often not clearly understood) and explicitly stated THEORIES are, in most cases, utilized to INTERPRETATIVELY account for that which is phenomenally perceived to be the case, while in addition, conjuring various types (and qualities) of EVIDENCE to support interpretative explanations of observational reports. A thorough analysis of the phenomenon of EXPLANATION (itself) would take us far afield. However, in a more appropriate place (in later chapters), a great deal of attention will be devoted to this issue. Again, with respect to describing mental activity at its highest level of perspicacity, let us generally say that the mind has achieved an ASTHETICALLY satisfying reconciliation between emotional feeling and connotative symbolic meaning, as they both concomitantly accompany their denotatively clear and distinct counterparts to form complete (usually linguistic)

symbols, and configurations of symbols, used to accurately represent given directly perceived aspects of reality. An absolutely minimal number of relevant data are sacrificed in the resultant conceptually representative formulations. The rich suggestibility of emotional feeling in its initial spontaneous occurrence to a problematic circumstance, and later, its function as a primitive (intuitive) criteriological basis for evaluating the degree of concordance demonstrated by conceptual formulations in their representation of concretely experienced facts (that is, we have intuitive FEELINGS that vaguely inform us of how well or badly given formulations "rest with or fit the facts"), provide a very fruitful, though subtle, resource for developing eventual hypotheses and/or explanations. At this primordial level of spontaneous reaction (to the ingressed EFFECTS of given stimulus-objects), the "best" wisdom that an organism has to bring to bear upon the stimulus-occasion is delivered to the scene; in all its unclarified, difficult and indeterminately rich nuances of subtle emotional meaning. Next, synthetically unified, symbolically connotative MEANING-AS-DIRECTLY-FELT-RELATEDNESS is reflectively invoked to seize upon some of the ephemeral potentiality of highly refined disciplined emotional feeling (very vaguely felt wisdom) in order to cognitively grasp implications capable of emerging into consciousness as clear, distinct symbolic formulations. From this synthetic process, concepts are ideationally generated, bearing remarkably

exact FIDELITY with directly perceived aspects of reality -- experienced directly in their inextricable unity as stimulus-object EFFECTS. In this creative process, maximal organismic FUNCTIONAL VIRTUE is in evidence. Concrescence reaches its highest transcendent stages, as innumerable relevant organic propensities synthetically unite to meet the "challenging demands" of ingressing stimulus-occasions. The initial, consciously perceivable testimonies of this process intuitively emerge as richly suggestive, amorphous, comprehensive emotional feelings, followed by connotative or vague symbolic meaning, manifesting the distinctive quality of profoundly FELT-RELATEDNESS; the most eminently relevant aspects of which are simplified and hence projected into clear consciousness as clear and distinct event-components. Little of this, perhaps, incomprehensibly complex process is directly governed by conscious determination, or directly ascertained through conscious reflection. The entire process can, however, (as we shall argue in our ensuing analyses) be given IMPORTANT DIRECTION BY MENTAL OR PRIVATE EVENTS; themselves functioning as stimulus-objects. But more fundamentally, it is the unconscious physio-chemical constitution of the human organism (as its multitudinous organic mechanisms have been subjected -- through unconscious, preconscious and conscious modes of causal determination -- to gradual disciplining) that provides the operational foundation for the extra-ordinary functional harmony intrinsic to high-grade human

behavior; hence providing the ultimate basis for generating novel, powerfully efficacious, entities that emerge into consciousness as ideational symbols. Perhaps the most recent, dramatically important examples of intelligence which habitually come reflectively to bear upon foundational presuppositions -- maintaining always an acute sensitivity to the precise deliverances of concrete perceptual experience, and intuitively-emotionally felt contradiction or conceptual departure from experiential facts -- was the revolution that occurred in theoretical physics during the first quarter of the twentieth century. The period that George Gamov has described as "the thirty years that shook physics" began with the theory of relativity, and later, the quantum theory. These theoretical innovations required a fundamental change in "mental set" (when dealing with certain classes of macro and micro cosmic phenomena, by ceasing to contemplate natural phenomena in terms of the time-honored materialistic-mechanistic Newtonian theory, and hence adopting the recently conceived spatio-temporal framework of relativity theory and the atomic physical model of quantum theory.

In positing the four very generally characteristic levels of cognitive functioning, the primary intention of the writer was to accentuate the distinctive features of each categorical level of habitual thinking-behavior. In terms of individual behavior, most human organisms at one time or another manifest the first two levels of habituation,

while a smaller percentage, only upon occasion, behave at the third level. Only a very small percentage of human beings ever demonstrate all four levels of habituation with any significant frequency during their daily lives.

It is important to mention in passing, from a therapeutic and educational point of view, that high-level reflective cognition (stages three and four) seem greatly contingent upon how "free" an organism is in his capacity to respond to stimulus-conditions. 'Freedom', as it is used here, has a mechanistic implication in that the term refers to freedom from personal anxiety, which is, organically speaking, a functionally disruptive factor in executing functionally virtuous response-behaviors. Similarly the constraining influence of dogma, convention, mental sets, situations promoting bureaucratic "efficiency", many outdated cultural mores, and so on, subtly impose varying amounts of closure upon perceptual fields. 'Freedom', more specifically, characterizes the degree of functional virtue that an organism can embody in harmoniously and spontaneously bringing to bear all of its relevant, concrescent organic propensities upon a given stimulus-object effect or stimulus-occasion. This process involves, among other things, the functional virtue of INTRARELATED components of particular organic mechanisms as they operate (cellularly) in executing their unique "task", as well as INTERRELATIONAL functional virtue manifested among societies of mechanisms (as it has been said, functional virtue is defined in the

classical Aristotlean sense of "doing something and doing it well".).

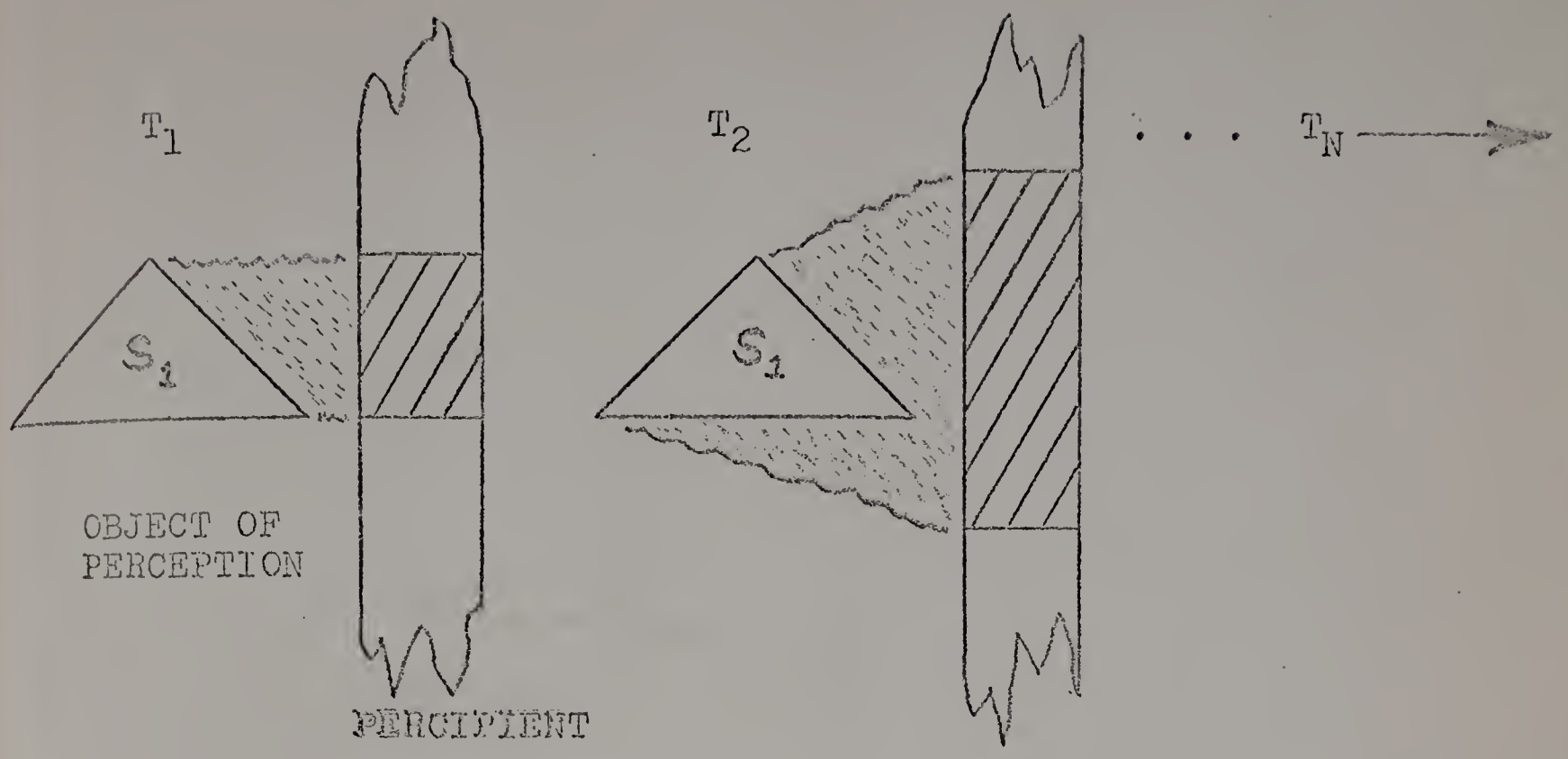
Beyond considering unconscious and preconscious functional virtue as they refer to the operation of an organism's constitutive organic mechanisms, and also assuming that the possibilities for 'freedom' are maximal, there is, in addition, the degree of reflective virtue which an organism can exercise in exploring the vast possibilities within emotional feeling and vague symbolic meaning in perceiving novel ideational suggestions for future enquiry. Certainly this ability is greatly contingent upon unconscious physiochemical process with respect to the functional virtue of organic mechanisms, but beyond this, reflective virtue is significantly determined by the quantitative and qualitative acquisition, and hence integration, of positive habituations which an organism has developed in the process of symbolic discipline or education. Positive habituations (behaviors that were given important consideration in the writings of Plato, Aristotle, Dewey, Whitehead, and others) play a crucial role in the overall functional virtue (or harmony) demonstrated in individual behavior. When this global attribute is developed to a high degree, the organism can both spontaneously and habitually conjure its unconscious organic resources, as well as its habituated (discriminative) powers of reflection to given stimulus-occasions. All the potentially lucrative organic and conscious resources that an organism possesses for "meeting the demands" of a

stimulus-occasion, harmoniously concresce as sharp, denotative components of symbolic clarity, concomitantly accompanied by an ideationally profound and richly suggestive (although consciously vague) periphery of vague symbolic and emotional felt meaning.

Much of what has been previously said was stated in universal concepts as they apply to human behavior (and to some extent that of lower organisms), hence rendering them necessarily abstract and, no doubt, difficult to comprehend by the reader. Although from the writer's point of view, there are too many possible ramifications to be inferred from the former constructs to cite concrete examples of each, however, let us consider several that embody some of the more conspicuous principles of the theory being developed.

Let us initially turn our attention to the concept of perceptual field. Figure 3 represents two instances, T_1 and T_2, in a time series. In each case there is an object of perception (i.e., a stimulus-object, the EFFECTS of which ARE our perceptions of the object), and a percipient.

FIGURE 3



The cross-hatched section of the percipient-symbol represents the "width" of the subject's perceptual field with respect to the number and quality of ideational associations that are conjured to consciousness resulting from the ingressed EFFECTS of stimulus-condition, S_1, as measured, for example, by a specially constructed achievement test (crude as this instrument may be for the purpose of determining the nature of this phenomenon). Now let us further assume that during the temporal interval transpiring between T_1 and T_2, the subject was exposed to a specific short-termed, well specified program of education, and was later retested at T_2 by a highly reliable alternate form of the test originally administered at T_1; the results showing that the subject's perceptual field had "broadened" or increased in both cognitive and emotional sensitivity. We could validly

conclude from this, that at T_1 the subject was less perceptively sensitive than at T_2, as measured by our psychometric device. Now the question is raised, What might be the possible ORGANIC difference, with respect to the functional virtue of the organism's physio-chemical mechanisms, in the subject at T_1 and T_2? Little is actually known in physio-chemical terms about this manifest change in behavioral state, so in the present discussion we shall avoid difficult and scientifically indeterminate neurophysiological problems. However, it seems perfectly tenable to suggest that, in principle, either MORE organic mechanisms are activated by stimulus-object S_1 at T_2 than T_1, or that the organic processes activated were more complex or INTEGRATED, or a combination of the two former possibilities. If this view is generally correct (and it IS ultimately an issue to be empirically verified), we may inferentially conclude that the increased "width" of the subject's perceptual field at T_2 represents a quantitative and qualitative increase of integrated learning (this conclusion would rely heavily upon a well conceived experiment designed to measure INTEGRATED or OPERATIONAL learning effective for concrete problem solving, as opposed to mere diverse and impersonal factual recall). Further, it can be concluded (inferentially) that at T_2 the subject's consciously reflective behavior was being influenced by quantitatively more and/or qualitatively better internalized stimulus-objects than at T_1. Finally, and this is a more daring but, in

principle, possible inference, we can maintain that a higher degree of ORGANIC SYNTHETIC CONCRESCENCE is in evidence at T_2 than T_1. This is to say that at T_1 the organism brought his "best" relevant organic propensities to bear upon the stimulus-object effects, but at T_2 (primarily as a result of the intervening period of formal instruction which, in effect, gave the subject a greater resource of consciously integrated ideational stimulus-objects hence increasing his power of conscious reflection), more organic propensities were available to participate efficaciously in concrescence. This enabled concrescence to be more integrated, and thus, high-ordered.

Another example of the varying "width" of organisms' perceptual field as determined by their response-behaviors resulting from the ingression of stimulus-object effects into their organic (and hence conscious) constitution, is the following situation. It can also be noted that the illustration will portray, to some extent, the preconscious as well as the consciously accessible phases of many behavioral responses. The reduction of environmental temperature is a stimulus-object effect that can conjure qualitatively quite different (possible) response-behaviors from various individuals; each response of which demonstrates different levels of intelligence or consciously reflective deliberation. At the lowest level, perhaps, all individuals share in common the fact that their physiology automatically, and therefore apart from conscious considerations, responds to

the drop in temperature by an increased rate of blood circulation; this is manifested overtly in the organisms shivering, or rapidly moving their limbs. Another possible response is that in sensing the temperature drop, the organism may merely put on a coat and not give the matter of a reduced environmental temperature any further thought. If the experiential impact of the temperature drop has impressed an organism as being significantly IMPORTANT (assuming that all the individuals cited in the illustrations now being presented had experienced the SAME temperature drop under similar circumstances), he may, after having taken short-termed measures to insulate his body from the cold, appropriate time to cut firewood for the anticipated winter. Still a higher-ordered response may be elicited from a more ingenious fellow who, as a result of having been caught "off-guard" by the sudden, unexpected drop in temperature, decides to develop long-ranged, carefully formulated plans as an elaborate preventative measure against such recurrent instances of uncomfortable temperature variation. This man thus contrives a plan entailing the procurement of various necessary commercially made heating system components such as thermostats, motors, a blower, high-limit temperature controls, etc. Beyond this, he investigates elementary considerations about heat-loss, proper distribution and location of radiators, and so on, in an effort to gather the necessary information needed to design an efficient and economical heating system for his

home. Finally, he utilizes the relevant information, materials, and comprehensive plan for construction, and actively proceeds to fabricate the conceptualized heating system. These four examples of qualitatively different responses to a given stimulus-condition illustrate the profoundly different cognitive IMPACT that a given stimulus-object effect can have upon individually unique minds, AS DETERMINED BY the number and quality of relevant CONNOTATIVELY MEANINGFUL PERCEPTIONS that were conjured to consciousness when the original stimulus-object effect (e.g., the perception of cold) ingressed into the individual's perceptual fields. Also the examples demonstrated the VARIABLE TEMPORAL influence that the conjured CONNOTATIVELY MEANINGFUL PERCEPTIONS (FUNCTIONING LATER IN REFLECTIVE CONSCIOUSNESS AS IDEATIONAL STIMULUS-OBJECTS) HAD UPON RESULTANT BEHAVIORAL PROGRAMS FOR ACTION. In the first two examples only very short-termed measures were taken in responding to the temperature drop, and then the problematic occurrence was promptly forgotten. But in the latter two examples, moderately to extensively long-termed measures were taken as preventatives against future, unexpected decreases in temperature. The last illustration portrayed an admirable utilization of previously learned positive habituations as they were sequentially and harmoniously implemented, in accordance to a premeditated plan, as relevant emotional and ideational resources for solving, over a long period of time, a problem whose origin occurred with the original sudden

decrease in temperature.

Next, a simple example will be given demonstrating the hypothetical process of progressively higher-ordered (or transcendent) concrescent synthesis. We shall refer to the therapeutic technique of 'reciprocal inhibition' as being illustrative of concrescence, although the originators of the procedure would NOT THEORETICALLY INTERPRET IT AS SUCH. Reciprocal inhibition is a methodological procedure more recently adopted by Behavioristic researchers, but one also having amorphous and occasionally unsavory historical roots. Albert Bandura describes a specific version of this procedure, viz., 'desensitization', as follows:

> On the basis of historical information, interview data, and psychological test response, the therapist constructs an anxiety hierarchy, a ranked list of stimuli to which the patient reacts with anxiety. In the case of desensitization based on relaxation, the patient is hypnotized and given relaxation suggestions. He is then asked to imagine a scene representing the weakest item on the anxiety hierarchy and, if the relaxation is unimpaired, this is followed by having the patient imagine the next item on the list, and so on. Thus, the anxiety cues are gradually increased from session to session until the last phobic stimulus can be presented without impairing the relaxed state. Through this procedure, relaxation responses eventually come to be attached to the anxiety evoking stimuli.[82]

Wolpe,[83] one of the most recent proponents of this thera-

---

[82]Albert Bandura, "Psychotherapy as a Learning Process," Psychological Bulletin, 58 (1961), p. 144.

[83]John Wolpe, Psychotherapy by Reciprocal Inhibition (Stanford: Stanford University Press, 1958).

peutic technique, would INTERPRET the theoretical dynamics (over and above the manifestly observable behavior) involved in this process in the Behavioristic (though associationistic) learning theory propounded by Clark Hull (as distinct from the operant conditioning THEORY of Skinner which is purported to deal exclusively with manifestly observable or wholly intersubjectively confirmable phenomena; a possibility that has been disproven in "Chapter One"). There are critics[84] of such techniques of behavior modification who would conceive the MANIFEST process within a theoretical framework whose presuppositional bases, and hence constructs, markedly differ from those of Bandura and Wolpe. The point to be made is that in the concrete process of desensitization, for example, there are innumerable behavioral phenomena directly manifested by both client and counselor as the counselor systematically introduces stimulation to the client. In fact, there are so many directly perceivable phenomena in evidence that if researchers attempted to deal with them simultaneously, mere confusion would result. Hence, in order to isolate only those phenomena that are regarded to function efficaciously in bringing about positive behavioral change, an instrument entitled 'theory' is introduced in order to clearly designate WHICH phenomena shall be deemed relevant,

---

[84]Edward Murray, "Learning Theory and Psychotherapy: Biotropic vs. Sociotropic Approaches," Journal of Counseling Psychology, X (Fall, 1963), 250-255.

in contrast to those alleged to be irrelevant for experimental purposes. A theory, then, enables researchers to methodologically select relevant phenomena for scientific investigation, and therein achieve carefully controlled conditions for valid and reliable research procedures. But although this appears to be a rather straightforward methodological format, serious confusion, and hence, problems and errors frequently arise in experimental enquiry for in dealing with phenomena, we must SELECT some phenomena for theoretical and evidential purposes and REJECT others as being irrelevant; and also, theoretical constructs, devised for EXPLANATORY purposes, are in most cases (IN PRINCIPLE) incapable of direct intersubjective verification. Further, those directly ascertainable phenomena alleged to serve as evidence for confirming given theoretical formulations are nearly always subjected to INTERPRETATION; here defined as an intellectual contribution to sensory perceptions, not directly confirmable via direct external sensory experience. With regard to our former consideration of desensitization, Bandura and Wolpe would maintain that permanent positive behavioral change, brought about as a function of using a stimulus hierarchy (or a reinforcement schedule as the resolution would be conceived by Skinner), is achieved through the removal of "anxious" behavioral symptoms that are capable of direct intersubjective confirmation by observers; thus the removal of manifest adverse symptoms would serve as the evidential grounds for confirming their

theoretical formulations. Other theorists, however, would interpret, for example, the same behavioral phenomena within different theoretical frameworks that would yield vastly different conceptions of basic problems and procedures for constructive reconciliation. Even in this indirect and terse analysis, it is easily seen that many deceptively profound and difficult philosophical and methodological problems are inherent within the seemingly obvious distinction between facts and theories. We have done little more at this point than merely suggest that the 'fact - theory' dichotomy has many problematic ramifications. The writer would maintain the somewhat extreme view that the interpretative symbolic contribution of mind, conceived as a causally efficacious entity, is inextricable associated with the 'fact - theory' distinction. Therefore, before we consider the latter problem, a concept of mind must be rigorously formulated.

The writer had specifically selected Bandura's description of a particular type of reciprocal inhibition for it clearly illustrates, on a rather elementary level, the principle of systematically introducing stimulus-object effects into a subject's perceptual field in order to increase the subject's consciously reflective discriminative sensitivity to those effects. Consequently, from increased sensitivity, which enables the organism to conjure qualitatively better connotative symbolic meaning or wisdom to an occasion, newly learned linguistic discriminations and

conceptual formulations generated by an individual (which facilitate precise characterization his personal and externally perceived states) thereafter acquire the status of ideational stimulus-objects that can be used by the individual for executing more efficacious behavioral responses to formerly problematic stimulus-object effects. In saying this, of course, the writer's theoretical sentiments are at odds with those of Wolpe and Bandura. Ultimately the grounds for dissent lie in the mind-body issues that were discussed in "Chapter One", and in the initial portion of the present chapter. However, the writer had formerly maintained that, although he disagrees with proponents of Behaviorism on epistemological grounds, that this was not to disrepute their concern for sound methodological procedure. The quotation from Bandura's writings is an excellent example of this area of agreement, insofar as methodological practice is capable of scientifically precise specification.

More specifically, the characterization of 'desensitization' would be INTERPRETED from a subjective psychological viewpoint by saying, first, that the client's anxious (manifest) behavioral symptoms with their directly experienced subjective psychological (anxious) basis are representative of a dysfunctional (unintegrated) repertoire of unconscious and preconscious habituations, activated by the effects of certain stimulus-conditions. Thus the subject cannot readily, through conscious reflection,

alleviate the adverse experience of anxiety. He is unable to do so for the stimulus-object effects causing undesirable anxious responses primordially ingress into the subject's organism; i.e., they stimulate organic mechanisms which are not under the direct control of conscious reflection (for they are unconsciously and preconsciously activated). For example, an athlete who is attempting to perfect a particular sequence of bodily movements is confronted with the task of rendering constituent components of the comprehensive movement, HABITUAL, and moreover, collectively habitual in a developmental order, as a precondition for spontaneously executing the ultimately desired comprehensive behavior. Similarly, in the case of our hypothetical anxious subject, certain previously learned behavioral responses to corresponding stimulus-conditions were initially improperly learned. At the time of origin, the negative responses no doubt had a consciously perplexing effect upon the subject in question, but as time passed, other competing stimulus-conditions demanded satisfaction, such that over a long period of time, the original experiential intensity of anxiety accompanying the dysfunctional response had been forgotten; however, the negative physical behavioral habituation still persisted in adversely influencing contemporary behavior. The behavioral analysis of the causal conditions underlying both the direct experience and symptomatic manifestations of anxiety does not differ significantly from various other

INTERPRETATIONS that may be offered, even though they issue from importantly different theories. The area of significant discrepancy begins to appear as we carefully consider the therapeutic measures -- which are stimulus objects, regardless of whether they ingress into the client as electric shocks or as metaphorically charged verbalizations -- used to alleviate anxious subjective psychological experience, or extinguish undesirable manifest symptoms. To define the cause of anxiety as an excessive dependence on an improper maternal relationship during the first year of life may accurately designate the original stimulus-condition causing the development of an early-life negative habituation. But if an inappropriately learned behavior still spontaneously arises as a function of a given stimulus-object effect that ingresses into a subject's consciousness twenty or thirty years hence, it seems ludicrous to introduce a long program of stimulus-object effects, alleged to be therapeutic, corresponding to 'regressing to the original conflicting early-life state of affairs evidenced between infant and mother', FOR THESE STIMULUS-OBJECT EFFECTS (as they manifest the form of highly sophisticated and abstract linguistic symbols, whose meaning, at best, is typically very far removed from the contemporary concrete subjective psychological experience of anxiety) ARE NOT AT ALL IDENTICAL WITH THOSE PRESENTLY CAUSING ANXIOUS EXPERIENTIAL AND MANIFEST SYMPTOMATIC BEHAVIORAL RESPONSES. When we stress this point, it is

merely to reiterate, though from a different theoretical frame of reference, a criticism that Professor Skinner has vigorously advocated for many years.[85, 86]

The question may be raised, then, What is the specific nature of contemporary stimulus-conditions that yield anxious responses?; and further, What are the dynamics involved in modifying anxious behavior as it is directly experienced, and symptomatically manifested? It has been logically demonstrated that a strict Behavioristic analysis, in which human behavior is regarded as purely reflexive, and mental events are causally inefficacious epiphenomena, is untenable for the view fails to recognize that MIND, defined minimally as consciousness and reflective consciousness, must be presupposed A PRIORI in order to have ANY meaningful, intelligent thinking behavior at all. A mind must be supposed to HAVE perceptions if anything resembling human behavior is to be in evidence. But how do we reconcile the fact that in circumstances where a subject is experiencing anxiety, he is both consciously aware of and even reflectively aware that certain stimulus-object effects are causing his anxiety; yet on the other hand, he cannot, from his own subjective psychological frame of reference, actively nullify the efficacy of the undesirable effects? These disruptive effects ARE within his perceptual field and

---

[85] Skinner, Science and Human..., op. cit.

[86] Skinner, Cumulative..., op. cit.

they can be, therefore, reflectively analyzed. However, concomitantly on a more primordially efficacious level, there are preconscious (reflexive) stimulus-object effects to which the individual's organism is responding -- hence yielding the feeling of anxiety, an uncomfortable state that cannot be positively modified merely through a reflective understanding of its causal conditions -- that do NOT enter his perceptual field. Stated differently, how can it consistently be maintained that there are certain stimulus-object effects of which the subject is aware and therefore can consciously (determinately) ulitize as ideational stimulus-objects to influence future behavioral modes, while conversely, there are other effects that exceed his conscious control in that they influence his behavior despite his consciously determined efforts to control their adverse influence. First, it can be said that if conscious awareness were NOT a necessary condition in executing uniquely human behavior, no ANXIOUS experience and manifest symptoms, for example, would be possible at all. This is simply to reiterate that if a subject was not consciously aware of the effects (e.g., the sensed presence) of the stimulus-object 'dog', no 'trembling behavior (symptom)' would transpire. Therefore we may conclude that on some occasion in the past the client had LEARNED (although not intentionally) to be fearful of dogs (with its manifest 'trembling' symptom) as a result of, perhaps, a former unpleasant experience with a particular dog. Disregarding

the appropriateness of such a response (i.e., anxiety with manifest trembling), let us say that, later as an adult, the phobic reaction to dogs is of such severity that it significantly impairs the subject's daily behavior. Moreover, the client is able to rationally conclude that the vast majority of dogs are not to be feared, and so on, yet when a 'dog' stimulus-object effect ingresses into his perceptual field, excessive anxiety (and hence trembling) results. It is clear that the example now demonstrates the condition defined by the two former questions, in that the subject has conscious control of some stimulus-object effects, but there are other effects, causing trembling and the subjective psychological state of fear, that are consciously uncontrollable. These latter responses, it has been said, can be defined as negative preconscious habituations, previously learned under (perhaps) fully (consciously) determinable circumstances, but as time passed, the habituations (with its directly experienced anxiety) had remained efficacious, while recollection of the original experiential occasion had faded from memory. Now assuming that we subject the client to the previously defined program of desensitization suggested by Bandura, what organismic behavioral changes can be expected as the therapeutic process is explained by the behavioral model being developed? The solution to the global problem of developing more harmoniously integrated, functionally virtuous positive habituations that supercede former

dysfunctional habituations, involves developing systematic programs of stimulus-object effects that, over time, sequentially ingress into the subject's organism in such a way that the subject can EXPERIENTIALLY FEEL HIS OWN ORGANIC MECHANISMS, THROUGH THEIR PRECONSCIOUS AND CONSCIOUS EFFECTS, EFFECTIVELY MEETING THE "DEMANDS" OF EACH STIMULUS-OBJECT EFFECT AS THEY ARE PROGRESSIVELY INTRODUCED INTO HIS ORGANISM. IT IS IN THIS WAY THAT RELEVANT ORGANIC AND IDEATIONAL PROPENSITIES CAN BE DISCIPLINED TO SYSTEMATICALLY AND CONSTRUCTIVELY COME TO BEAR UPON STIMULUS-CONDITIONS SUCH THAT INCREASINGLY HIGH-ORDERED CONCRESCENT SYNTHESIS IS ACHIEVED. This procedure is effectively utilized in the type of therapy (at least as INTERPRETED by this writer) suggested by Bandura and Wolpe, as it is designed to help clients transcend the constraining influence of certain kinds of negative (primordially reflexive) habituation. It enables the organism to gradually RELEARN responses to given stimulus-object effects, that were previously consciously uncontrollable because of their primitive mode of preconscious ingression, by progressively introducing increasingly more intense stimulus-object effects in succession to immediately preceding, less intense effects that have been successfully (behaviorally) mastered. In this way, formerly problematic responses are gradually subsumed initially to unconscious, then preconscious, and finally at higher stages of concrescence, to linguistic symbolic functional discipline. When dissipating the

influence of negative preconscious habituations, which are usually intrinsically presymbolic, emotional feelings are typically the phenomena to be construed, and hence positively disciplined. Thus as an anxiety hierarchy is presented to the client, he MUST LEARN to carefully DISCRIMINATE among the vague, amorphous feelings and emotions, NECESSARILY DIRECTLY EXPERIENCED AS COMPREHENSIBLE AND CONTROLLABLE, FROM THOSE THAT EMBODY DYSFUNCTIONAL ANXIETY. In this way, a gradual discipline is imposed upon the vaguely conscious substratum of primordially FELT, spontaneous emotional reactions to given stimulus-object effects. As these feelings are more precisely symbolically comprehended AND EXPERIENTIALLY ACCEPTED as "legitimate human" responses, they successively emerge with increased (disciplined) clarity into the subject's perceptual field. When this precondition has been fulfilled, the formerly vague, dysfunctional anxious feelings can be constructively reconciled with the organism's relevant comprehensive mode of behavior, and furthermore, acquire the status of stimulus-objects capable of efficaciously functioning as behavioral determinants.

Therapists, when attempting to modify HIGHER-ORDERED levels of negative habituation, may ulitize increasingly more abstract symbolic (linguistic) stimulus-objects (over and above the concrete and even physically tangible stimulus-objects required for dealing with preconscious negative habituations) to generate effects that will ingress

into the client as NOVEL, PROVOCATIVE DIRECT EXPERIENCE of such a nature as to NECESSARILY elicit complex emotional-intellectual responses that will be subjected to client's earnest, critical reflection. This therapeutically more "honest", frank and aggressive approach to behavior modification becomes considerably more complex, in its experiential concreteness, than most traditional types of therapy. Presently, though in a rather unwieldly fashion, such stimulus-object effects (communicated linguistically, and in other manifestly perceivable ways) as accurate empathy in understanding client responses, therapists' positive regard for their client, concreteness of therapists' communications to clients, and so on, have been subjected to experimentation. Many of the results issuing from this program of investigation appear to possess numerous promising implications for understanding the process of therapeutic interaction, both in individual and group situations. It would seem that such IMPLICITLY embodied qualities in therapists' behavior as positive regard, concreteness, therapist congruence, etc., would effectively facilitate concrescent synthesis, specifically on the level of emotional awareness, and perhaps to a lesser degree on those levels corresponding to connotative and denotative symbolic meaning.[87] Promoting increasingly high-ordered

---

[87]Charles B. Truax, "Effective Ingredients in Psychotherapy: An Approach to Unraveling the Patient-Therapist Interaction," Journal of Counseling Psychology, X (Fall, 1963), 256-263.

concrescence at these more advanced levels would appear to be largely a function of accurate empathy. Traditionally, accurate empathy in psychotherapeutic circles has involved INTERPRETING client's frequently confused and/or overtly deceptive verbalizations in an effort to reveal the ESSENTIAL MEANING of client's most genuine sentiments about given objects of concern. It is an effort to expose what the client "really" means as opposed to accepting the mere naively manifest, literal verbalizations. This technique reaches its extreme form in Psychoanalytic therapies. But we shall expound a less extreme conception of accurate empathy. Let us now, with reference to our model, begin by saying that in any given counseling session many phenomena are directly in evidence. There are innumerable gestural responses, bodily movements, predispositional behaviors, etc., to be considered in BOTH the actions of client(s) and counselor. On a more sophisticated level, there are the highly complex implications of client-counselor verbalizations with their myriad connotatively meaningful nuances. In short, counselors are deluged with many data from which to formulate interpretative inferences. The question becomes, then, What sort of theoretical guides or constructs should a counselor utilize in making inferential determinations? With respect to the model being developed, we can partially answer this question by saying that the multitude of phenomena manifested in the client's global behavior ingress into the therapist's consciousness as mental event-

components that are hence critically (through reflection) subsumed to the therapist's backlogue of wisdom. Thus the phenomena, perceived as event-components, are directly experienced in their UNIFIED mode of occurrence throughout given temporal durations. It is the cardinally important task of counselors to take this often complex UNITY of data, critically reflect upon the essential SIGNIFICANCE of the client's complete behavior -- whether the significance is overtly manifest, or at the other extreme, behaviorally covert, for example (e.g., a client may verbally indicate that he is not fearful of an anticipated counseling session, yet the therapist perceives the client's hands trembling) -- and finally, RE-STATE OR INDICATE to the client, with CONCISE CLARITY, the SIMPLIFIED, ESSENTIAL INTERPRETED MEANING of his unified behavioral response. This is the process that we shall define as expressing accurate empathy. The term 'simplify' must not be confused with unwarranted 'oversimplification'. Simplification, properly conceived, is one of the most valuable products of reflective analysis, for it presupposes a profound and accurate understanding of the subject matter (i.e., personal states as well as those of client's) to be essentially characterized. One has only to recall his past efforts in formulating operational definitions, or precisely defining various phenomenal occurrences and procedural methods to appreciate the difficulty involved in generating simplified essential meanings that effectively fulfill an objective. Therefore,

when a therapist has effectively (i.e., accurately and meaningfully) informed a client of a previously unknown, concretely relevant fact about his behavior, the accurate empathic (simplified) communication is potentially capable of becoming a causally efficacious stimulus-object in the client's perceptual field. The interpretative utterances of counselors can be utilized by clients for conceptually understanding, and thereby integrating, formerly ill-conceived dimensions of their personal behavior. Vaguely comprehended, thus fearful and dysfunctional feelings can be harmoniously reconciled with one's over-all behavior once they can be subsumed to linguistic, and then, ideational-emotional discipline.[88] There is also a more nebulous but characteristically human by-product resulting from having successfully engaged in therapeutic self-discipline. It is the profoundly humane asthetic satisfaction derived from PERSONALLY INITIATED (with the aid of a counselor) BEHAVIORAL INTEGRATION. WE MAY CONCLUDE BY SAYING THAT AN INTEGRATED UNDERSTANDING OF FORMERLY PROBLEMATIC FEELINGS IS A RESULT OF TRANSCENDENT CONCRESCENT SYNTHESIS. INTERPRETED AS SUBJECTIVE PSYCHOLOGICAL EXPERIENCE, THIS CORRESPONDS TO THE GRADUALLY EMERGING AWARENESS THAT UNCONTROLLABLE, ADVERSE FEELINGS CAN BE TRANSFORMED INTO CONSTRUCTIVE SOURCES OF ANIMATION IF THEY ARE ALLOWED TO MANIFEST THEMSELVES WITH FULL CONSCIOUS INTENSITY UNDER

---

[88]Nicholas Hobbs, "Sources of Gain in Psychotherapy," American Psychologists, XVII (1962), 741-747.

APPROPRIATE THERAPEUTIC CIRCUMSTANCES, AND THEN REFLECTIVELY UNDERSTOOD IN TERMS OF THEIR ESSENTIAL SIGNIFICANCE. THAT IS, FROM INTENSE, FRANK THERAPEUTIC INVOLVEMENT, A CLIENT CAN COME TO UNDERSTAND VAGUE, FEARFUL SUBJECTIVE PSYCHOLOGICAL STATES THROUGH A CYCLICAL PROCESS OF EXPERIENTIALLY ENTERTAINING THE FULL EMOTIONAL IMPINGEMENT OF DYSFUNCTIONAL FEELING; AND USING THIS AS A BASIS FOR DEPARTURE, PROCEED TO REFLECTIVELY EXPLICATE AND HENCE SUBSUME INTELLIGIBLE PORTIONS OF PRIMORDIAL EMOTION TO LINGUISTIC DISCIPLINE. THUS CONTINUING IN THIS CYCLICAL MANNER, AN INDIVIDUAL CAN, WITH INTIMATE CONJUNCT ASSISTANCE FROM A THERAPIST, SYSTEMATICALLY TRANSMUTE HIS PERSONAL EXPERIENCE FROM A QUALITY OF OPPRESSIVE ANXIETY TO SENTIENT AUTONOMY. PERPLEXED EMOTIONAL FEELING ORGANICALLY CORRESPONDS TO CONDITIONS WHERE IMPORTANT ORGANIC PROPENSITIES ARE NOT SYNTHETICALLY INTEGRATED INTO HIGHER-ORDERED CONCRESCENCE. COUNSELING, THEREFORE, BECOMES AN ENTERPRISE DESIGNED TO SYSTEMATICALLY PROVOKE TRANSCENDENT CONCRESCENCE BY SUCCESSIVELY INTRODUCING STIMULUS-OBJECT EFFECTS INTO CLIENT'S PERCEPTUAL FIELD THAT WILL CONJURE MODERATELY PROBLEMATIC EMOTIONAL EXPERIENCE TO CONSCIOUSNESS FOR EXPERIENTIAL ENTERTAINMENT, AND HENCE, REFLECTIVE DISCIPLINE, IN ORDER TO DEVELOP MORE EFFICACIOUS PROPENSITY-REPERTORIES IN RESPONSE TO THE EFFECTS. In all this, however, investigators must begin to pay much closer attention to the specific nature of the stimulus-object effects that they, as therapists and educators, introduce into client's and student's perceptual

fields, for in many instances the effects are so diffuse and/or irrelevant that they have little COGNITIVE IMPACT upon client's behavior and, perhaps frequently have even deleterious influence![89] It is not the purpose of this paper to formally explicate and hence systematically analyze the therapeutic process as it is comprehended by the model being developed, for this task would entail a major and lengthy effort. Rather, we can consider only the mere unelaborated fundamentals of the therapeutic process as certain of its phenomenal aspects have utility in meaningfully enhancing our theoretical endeavors. With this point in mind, we must now again devote our attention to developing additional theoretical constructs.

Generally speaking, the human organism has, heretofore, been conceived as an almost incomprehensibly complex system of harmoniously integrated functional mechanisms, capable of responding to given stimulus-object effects whose categorical modes for ingression can, in principle, be only twofold, namely, as effects from the external natural world, and as effects arising from organism's internal bodily environment. At unconscious levels of ingression (where EFFECTS ingress as sensation, as distinct from consciously ascertainable direct perception), an indefinitely large number of determinate response-processes (defined as organic propensities)

---

[89] Alan E. Bergin, "The Effects of Psychotherapy: Negative Results Revisited," Journal of Counseling Psychology, X (Fall, 1963), 244-250.

are elicited by societies (and groups of societies) of organic mechanisms, in response to determinate reoccurring stimulus-object effects. These response-processes are QUALITATIVELY contingent upon the FUNCTIONAL EFFICACY VIRTUE demonstrated among the constituent components of organic mechanisms operating as discreet cellular units, and among cells as they function cooperatively as societies and multiple societies. This functionally harmonious, progressively integrative, coalescent character of organic processes, arising purely from the INTRINSIC STRUCTURE of cells as they exist in STRATEGIC PROXIMITY to one another within the domain of an individual organism living in a propitious environment, has been defined as CONSCRESCENCE. As propensities achieve greater organic synthesis, they (in effect) promote concrescence. When cerebral processes become synthetically conjoined with (relatively) uniformly enduring "supportive" organic processes, so that optimal levels of concrescence are approached, the sheer CONCOMITANT INTEGRATION OF MULTITUDINOUS PHYSIO-CHEMICAL PROCESSES, EXISTING THROUGHOUT GIVEN TEMPORAL DURATIONS, provides the necessary condition for an ontalogically unique class of emergent phenomena that we have defined as mental events. These emergent mental phenomena can be conceived to occur upon three distinctly perceivable experiential levels of sophistication; the lowest being organic bodily feeling, then emotional feeling, and the highest, ideational feeling. The latter two levels constitute the domain of symbolic

behavior, rendering conscious and reflective conscious (intelligent) behavior possible. One fundamentally important implication of this fact is that stimulus-object effects acquire, over and above their unconscious occurrence as sensation, the ontalogically superior status of PERCEPTUAL experience, capable of intelligently aware acknowledgement. Stimulus-object effects, ingressing as CONSCIOUSLY determinable causal agents (as distinct from UNCONSCIOUS physiochemical causal conditions) can appear as external bodily perception originating from the natural world, and internal bodily perception occurring as organic feeling, emotional feeling and ideational feeling. Ideational feeling, as it has been said, is a high-ordered symbolic derivative, resulting from gradually subsuming emotional feeling to discipline. Symbolic acquisition, the preponderance of which (in mature intelligence) is linguistic, permits (and necessarily entails) an extensive increase in human organism's behavioral FLEXIBILITY. In its usage here, the term 'behavior' is to be regarded in a broad sense: as that, (in principle) comprehensible by an objective and subjective psychological science. Concretely speaking, behavior includes manifest bodily movement and (usually verbal) sound; and dynamic inner feeling, and moreover, emotional and ideational actuality. Because of the human organism's greatly increased capacity for behavioral flexibility (and hence adaptability), there arises the possibility for an indefinite elaboration of intelligence. Intellectual

development is a function of conscious reflection. This ideational synthetic phenomenon involves, HAVING consciously symbolic experience, and then attempting to logically explicate some of its indeterminately complex dimensions through the necessary medium of linguistic symbols, in order to render original vaguely understood experience (linguistically) clear and distinct. Once a backlogue of general information has been learned (as propensities established among societies of cerebral physio-chemical mechanisms), this in effect transforms vague undisciplined conscious experience into MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Reflection, defined as the learned capacity to bring formerly acquired relevant wisdom analytically (critically and constructively) to bear upon present experience, develops increased explicative potency as numerically MORE symbolically precise discriminations are ascertained within concrete experiential phenomena, and then integrated into organism's SPONTANEOUS conscious awareness. In this way, higher-ordered concrescence is achieved because of the greater information (if integrated) infusively as connotative meaning) contained within organism's reflective wisdom as it is exercised in problem-solving behavior. Reflective powers develop cyclically, that is, experience is entertained, and hence, critically pondered in light of past wisdom in order to effect novel ideational synthesis; then the two-fold operation is repeated indefinitely. This cyclical developmental process, of course, commensurately broadens

individuals' perceptual field. Transcendent concrescent synthesis, contemplated from a subjective psychological perspective, IS novelly established cognitive relations among concepts whose former, vaguely understood conscious character rendered them disassociated. It is (conceived in a different way) the instrumental acquisition of novel (positive) ideationations, and thereby, stimulus-objects; ones that will be spontaneously embodied within the connotative symbolic meaning (wisdom) of future ideational activity, oriented at still higher-ordered concrescence. Implicit in this ideally postulated progression for intellectual growth are some important considerations that must be now more carefully contemplated.

In our line of argumentation, it becomes evident that ALL conscious thoughts and their consciously intelligible modes of association (or RELATION with one another) EMERGE into awareness typically as linguistic symbols manifesting denotative and connotative components. The denotative component and the innumerable factors that collectively constitute the connotative symbolic component could, each, be regarded as consisting of IDEATIONAL PROPENSITIES or stated differently, as consciously ascertainable dimensions of what we have defined as an organic propensity. Thus any possible complete (unified) idea is consciously entertained as a determinate configuration of inextricably unified denotative and connotative ideational propensities. The issue to be contemplated, then, is that IDEAS and CONSCIOUSLY

PERCEIVED RELATIONS AMONG IDEAS (which when novel, promote concrescence) EMERGE from highly complex, integrated (empirically identical) correlative organic propensities as mental events. For example, at $time_1$ man 'A' is reflecting on a problem, endeavoring to discover its solution. But at $time_1$ he has no solution. The man is emotionally and intellectually involved with the problem, thereby bringing his best cognitive resources reflectively to bear upon the matter. Then at last, at $time_2$, man 'A' CONSCIOUSLY discovers the solution to the problem! What were the considerations involved in this consciously intelligible novel awareness? We are required to EXPLAIN the causal basis of a typical act of synthetic intelligence where an individual discovers a solution to a problematic circumstance; a solution that he had never before contemplated. We may begin by saying that consciousness and reflective conscious awareness were necessary conditions for the novel discovery, in that a MIND is required to INTELLIGENTLY UNDERSTAND and HENCE ENTERTAIN the problem. Further, reflective consciousness was required in order to analytically bring the organism's relevant emotional and ideational wisdom upon the problem. However, the novel solution was ACTUALLY SYNTHESIZED INITIALLY ON AN UNCONSCIOUS PHYSIOCHEMICAL LEVEL, THE NECESSARY CONSCIOUS PRECONDITIONS OF WHICH WERE ESTABLISHED THROUGH A DETERMINATE REFLECTIVE CONSCIOUS ACT, AND THEN, THE UNIQUELY SYNTHESIZED UNCONSCIOUS PRODUCTS EMERGED INTO AWARENESS AS A CONSCIOUSLY INTELLIG-

IBLE SOLUTION TO A PROBLEM. AS A RESULT OF A SUBJECTIVE PSYCHOLOGICALLY DETERMINED REFLECTIVE CONSCIOUS EFFORT, THE NECESSARY AND SUFFICIENT CONDITIONS FOR (INITIALLY) UNCONSCIOUS (PHYSIO-CHEMICAL) CONCRESCENT SYNTHESIS OF RELEVANT ORGANIC PROPENSITIES were provided. This is to say that a reflective conscious mental event (a phenomenon which, in itself, presupposes a sufficient level of organic concrescence to yield the event) CAUSES transcendent concrescent synthesis, in that reflection, as an ontalogically existing subjective psychological phenomenon, is a necessary prerequisite (PERCEPTUAL) ORGANIZATIONAL condition needed to establish PROPITIOUS PROXIMITY among physio-chemical states so that they may unite in novel synthesis. Stated again, the sequence of EMERGENCE is as follows: (1) Conscious reflection (which is itself dependent upon sufficient organic concrescence to render the conscious act possible at all) involves bringing the stimulus-condition (the problem, understood in linguistically (DENOTATIVELY) meaningful terms) and relevant wisdom (embodied as CONNOTATIVE linguistic meaning, including vaguely conscious DISCIPLINED concepts AND emotional feeling) CONCOMITANTLY into a consciously intelligible IDEATIONAL PROXIMITY. This intelligent behavioral act, on an underlying physio-chemical correlative level, has the net (unconscious) effect of conjuring relevant organic propensities to come synthetically to bear upon (because of the physio-chemical PROXIMITY of organic processes) those organic propensities which

correlate to the CONSCIOUSLY ascertainable stimulus-occasion.
(2) When this NECESSARY PRECONDITION is fulfilled, novel ORGANIC concrescent synthesis can occur /again, as a result of the UNIQUE physio-chemical PROXIMITY established among participating processes, which, in turn, occurred BECAUSE of a LOGICALLY (NOT TEMPORALLY) PRIOR (mental) precondition, whose validity is secured through the EMPIRICAL IDENTITY thesis; namely, that CONSCIOUSLY INTELLIGIBLE, RELEVANT (PROXIMATE) IDEATIONAL RELATIONS WERE ESTABLISHED AMONG THE STIMULUS-CONDITION AND RELEVANT WISDOM AS A RESULT OF AN INDIVIDUALLY DETERMINED REFLECTIVE CONSCIOUS EFFORT7.
(3) When transcendent concrescence has UNCONSCIOUSLY occurred, (THEN) its subjective psychological correlate emerges into conscious experience (thereby constituting a component of conscious experience) as an intelligible (NOVELLY SYNTHESIZED) solution to a problem.

We may conclude that the phenomena of consciousness and reflective consciousness are EMERGENT RESULTANTS from preconditioned organic concrescence, and yet reciprocally, transcendent concrescence is necessarily contingent upon reflective consciousness for its continued promotion. Transcendent concrescence is a three-stage cyclical process. Most of this extraordinarily complex synthetic process occurs at an UNCONSCIOUS level; that is, one which is IN PRINCIPLE inaccessible to direct reflective consciousness. This is merely to say that we cannot, for example, directly experience, as subjective psychological perception, a

localized neural synthesis (here functioning as a stimulus-object). Rather we can only experience the resultant stimulus-object EFFECTS of this physio-chemical synthesis as it provides the preconditional grounds for an emergent (perceptual) component of a subjective psychological event. Private or mental events are themselves a unique class of ontalogical phenomena in that they are emergents of synthetic concrescence. Stated in more concrete terms, mental events are subjective psychologically direct perceptual experiences of given, enormously complex configurations of integrated cerebral states, concomitantly activated throughout given temporal durations. They ARE what it is to BE those physio-chemical states in their ACTUALIZED UNITY, a unity so profoundly complex that an ontalogically unique class of phenomena EMERGE, termed subjective psychological experience. Mental events, in their inextricable perceptual unity, are all that we can ever mean by the notion of a thing (stimulus-object)-in-itself. In this sense, every reflectively conscious human being is a thing-in-itself that directly (PRIVATELY) knows some of its own behavioral states by BEING those behavioral states.

The essential issue that we are presently considering is, How can private, subjective psychological events CAUSE transcendent organic (physio-chemical) concrescence, while concomitantly being emergent products of the physio-chemical organismic system which it is to (transcendently) modify? It has been said that mental events function causally in

the sense that they bring stimulus-objects or conditions /which we directly experience as, over and above barren external natural or internally felt perceptual deliverance, a symbolically (interpretively) elaborated and hence subjective psychologically MEANINGFUL problem, ontalogically existing as clearly intelligible, linguistically disciplined THOUGHT. This thought, it will be recalled, is constituted of three classes of ideational components: clear denotative symbolic meaning, and a more vague connotative meaning directly experienced as MEANING-AS-DIRECTLY-FELT-RELATED-NESS, having both a vague symbolic and even more vague emotional dimension/ into a clearly conscious, intelligible focus. But we must ask, What is the intrinsic nature of a 'clearly conscious, intelligible focus' such that it can CAUSE organic synthesis, occurring in a fact, for example, that when chemical element X is combined with element Y, a resultant synthesis of the two elements occurs, producing a unique compound, Z (of course RECOGNITION of the factual phenomenon does not presuppose an ability to theoretically EXPLAIN its basis for synthesis; rather it merely entails an understanding of contingent relations, e.g., given X and Y, Z follows). It can be concluded that, in the loose sense of defining 'cause' in terms of contingent relations as distinct from "creatively bring into being", the introduction of X to Y caused the resultant compound, Z. However, a subjective psychological thought is not generally regarded as a tangible causal agent similar to that of, for example,

chemical X or a physical object transmitting force. Therefore how can mental event M_N (comprised of the following directly perceivable event-components: denotative and connotative symbolic meaning, and stimulus-object effects) cause (in the sense of contingent relations) the transcendent concrescent occasion C_N? If it is concluded, as it must be if we are to remain consistent with the presuppositions of scientific enquiry, that the innumerable mental-event components constituting the conscious and reflective conscious dimensions of mental event M_N have physio-chemical correlates, then it can be said that these correlates comprise a substantial portion of the RELEVANT organic propensities participating in concrescence C_N. Further, it has formerly been proven that we must presuppose A PRIORI the causal efficacity of mental events in order to have, in principle, ANY kind logically and subjective psychologically MEANINGFUL discourse at all. It was proven that linguistic reports referring to directly experienced subjective psychological phenomena ARE NOT LOGICALLY (ANALYTICALLY) EQUIVALENT to, in principle, possible scientific statements or physio-chemical correlative underlying conditions; rather this correlative determination must be established EMPIRICALLY, thereby yielding SYNTHETIC knowledge. This is to say that since an analytical identity CANNOT be established between statements referring to DIRECTLY PERCEIVED subjective psychological experience and scientific statements referring its underlying physio-chemical correlates,

we must admit the existence of two logically and hence ONTALOGICALLY distinct domains of phenomenal occurrence, one physio-chemical or natural and the other, mental. Concretely speaking, this means that what each human being directly perceives as INEXTRICABLY UNIFIED subjective psychological experience is a phenomenon whose intrinsic meaningful nature could not possibly be LOGICALLY deduced from an analysis of the meaning of scientific statements referring to its physio-chemical correlates, and vice versa. From these considerations, we have been led to conclude that mental events are an ontalogically unique class of phenomena; emergents of high-ordered concrescent physio-chemical processes. Since these private, mental events embody the intrinsic general property, FEELING, with its three modes of occurrence, viz., organic feeling, emotional feeling, and ideational feeling, SYMBOLICALLY DISCIPLINED EMOTIONAL-IDEATIONAL FEELING (usually occurring as typical linguistic symbols having denotatively and connotatively meaningful components) is in fact AN ONTALOGICALLY UNIQUE CLASS OF PHENOMENA (gradually developed by individuals in accordance to the 'theory of symbolic development') that INTERVENE AS INTELLIGENT CONSCIOUS AWARENESS IN WHAT OTHERWISE WOULD BE AN ENTIRELY UNCONSCIOUS RELATIONSHIP BETWEEN A PERCEPTIONLESS ORGANISM AND ITS IMMEDIATE ENVIRONMENT, THE STIMULUS-OBJECT EFFECTS OF WHICH WOULD INGRESS INTO THE ORGANISM AS BARE MEANINGLESS SENSATION. In this later sense, the subhuman organism would be operating on a level of

reciprocal ingression among stimulus-objects similar, for example, to that of chemical elements engaged in synthesis; a phenomenon hardly to be regarded as involving conscious awareness. Moreover, this INTERVENING SYMBOLIC DOMAIN, as we have seen, acquires a highly determinate CAUSALLY EFFICACIOUS STATUS in influencing the behavior of human organisms. This is to say that NON-PHYSIO-CHEMICAL as well as typical physio-chemical factors causally operate between ingressed SENSATION and MANIFEST BODILY BEHAVIOR. Non-physio-chemical factors are what we have been designating throughout our discourse as complete (usually linguistic) symbols, synthesized from denotative and connotative symbolic components, that are concomitantly united as inextricably unified moments of private subjective psychologically MEANINGFUL experience. These disciplined units of meaningful experience embody the power to SYMBOLICALLY REPRESENT innumerable stimulus-object effects, perceived (generally) as ENTITIES, PROPERTIES, AND STATIC AND DYNAMIC RELATIONS AMONG ENTITIES AND PROPERTIES. Therefore intervening mental phenomena, while on one hand emerging from correlative physio-chemical states, can also concomitantly (causally) promote transcendent organic concrescence through consciously reflective efforts. Specifically, this means that since all mental events have EMPIRICALLY identical correlative states, such that from scientific statements of physio-chemical correlates no statements of corresponding subjective psychological experience could ever in principle be deduced,

it must be concluded, that not only do mental events constitute an ontalogically unique class of phenomena, but also they are a similarly UNIQUE DOMAIN OF CAUSALITY, (IN PRINCIPLE) DISTINCT FROM PHYSIO-CHEMICAL CAUSALITY. A great part of subjective psychological experience occurs as connotative and denotative symbolic meaning which is concomitantly actualized with other contributed perception, as inextricably related mental events. These are, then, the DISCIPLINED PRODUCTS of a long process in which PURELY AMORPHOUS INFANTILE EMOTIONAL FEELING (ITSELF A PRIMORDIAL EMERGENT FROM ENORMOUSLY COMPLEX AND INTEGRATED CEREBRAL PROCESSES) IS GRADUALLY TRANSFORMED INTO INTELLIGENT CONSCIOUS AWARENESS, ENTITLED MENTAL EVENTS. MENTAL EVENTS HAVE NUMEROUS EVENT-COMPONENTS PARTICIPATING (DIRECTLY INGRESSING INTO) IN CONSCIOUSNESS AS NATURAL AND INTERNAL BODILY STIMULUS OBJECT EFFECTS. SINCE A LARGE PORTION OF THESE SUBJECTIVE PSYCHOLOGICALLY EXPERIENCED (i.e., internally located) EFFECTS ARE SYMBOLIC (HENCE INDICATING THAT THE RELEVANT WISDOM OF THE PAST, SYMBOLICALLY STORED AS MEMORY, CAN CONSTRUCTIVELY ENTER CONTEMPORARY OCCASIONS AS THE CONNOTATIVE MEANING NECESSARILY ACCOMPANYING DENOTATIVELY CLEAR EVENT-COMPONENTS), EVER-EMERGING CONTEMPORARY NATURAL-WORLD AND INTERNALLY FELT PERCEPTUAL OCCASIONS ARE NOT MERELY UNINTELLIGIBLE; RATHER THESE PERCEPTA ARE RENDERED SUBJECTIVE PSYCHOLOGICALLY MEANINGFUL. THUS WITHIN THE INEXTRICABLY RELATED DOMAIN OF MENTAL EVENTS, INCESSANTLY EMERGING REALITY CAN BE INTELLIGENTLY UNDER-

STOOD: A PHENOMENON CAPABLE OF BEING GENERATED ONLY BY INDIVIDUAL HUMAN MINDS. MENTAL EVENTS, THEN, ARE ONTALOGICALLY UNIQUE CAUSAL DOMAINS IN THE SENSE THAT ALTHOUGH EVENT COMPONENTS ARE EMERGENTS FROM UNDERLYING PHYSIO-CHEMICAL CONDITIONS, THEIR CONCOMITANT COLLECTIVE EMERGENCE AS INEXTRICABLE UNITIES EMBODYING INTELLIGENT CONSCIOUS AND REFLECTIVE CONSCIOUS AWARENESS, IN EFFECT, ARE ONTALOGICALLY UNIQUE FRAMES OF REFERENCE FROM WHICH IDEATIONAL STIMULUS-OBJECTS MAY BE SYMBOLICALLY SYNTHESIZED, AND THEREBY UTILIZED AS CONSCIOUS (CAUSAL) BEHAVIORAL DETERMINANTS. ALL THIS IS SIMPLY TO SAY THAT TO CONSCIOUSLY MANIPULATE INTELLIGENTLY MEANINGFUL SYMBOLS (i.e., TO THINK) IS ALSO TO CONCOMITANTLY MANIPULATE THEIR UNDERLYING CORRELATIVE PHYSIO-CHEMICAL STATES. SINCE PHYSIO-CHEMICAL STATES CAN BE MANIPULATED FROM A PERSPECTIVE OF INTELLIGENT CONSCIOUSNESS, THIS IS ALSO TO SAY THAT NOVEL PROXIMATE RELATIONS CAN BE ESTABLISHED AMONG ORGANIC PROPENSITIES, DEMONSTRATING THAT MENTAL EVENTS CAN CAUSALLY PROMOTE TRANSCENDENT ORGANIC CONCRESCENCE. THE EXTRAORDINARY EMERGENT, SPONTANEOUSLY MEANINGFUL UNITY, INTRINSICALLY CHARACTERISTIC OF MENTAL EVENTS, OCCURRING IN CONTRAST (DURING REFLECTION) WITH ITS MASSIVELY COMPLEX AND NUMEROUS CONNOTATIVELY MEANINGFUL IMPLICATIONS, SUGGEST INNUMERABLE POSSIBILITIES FOR SYMBOLIC PERMUTATION AND THEREBY INNOVATION. ENSUING COGNITIVE SYNTHESIS, AS TRANSCENDENT CONCRESCENCE, THEN EMERGES AS (CONSCIOUSLY INTELLIGIBLE) NOVELLY PERCEIVED RELATIONS AMONG GIVEN OBJECTS OF CONCERN.

The problem of ideational causality is, without question, very difficult to theoretically comprehend. Our present effort to explain this phenomenon may be regarded as a preliminary to "Chapter Three", where a considerably more systematic and ultimately fruitful argument regarding the same issues will be propounded within the context of a general theory of mind. But in any case, ideational causality in contrast to natural causality (i.e., demonstrating contingent relations) is truly a remarkable and profound phenomenon. That stimulus-object effects, initially ingressing into an organism as sensation, and then concrescing to the level where they emerge as conscious percepta, participating thereby as private event-components which denote a small (personally relevant) aspect of reality that has been consciously (symbolically) illuminated through becoming intelligible, is remarkable to say the least. However, how much more astounding is the phenomenon of conscious reflection (again in contrast to natural causal processes), whereby consciously (symbolically) intelligible stimulus-object effects -- effects that are intrinsically different than any that could possibly ingress into any lower-ordered organism -- function within the unity of mental events to conjure relevant, previously learned wisdom (which constructively comes to bear upon the present occasion) to enhance the present occasion by rendering it subjective psychologically meaningful. In this, conscious reflection provides the necessary preconditions for emergent,

novelly conceived ideational relations, which in turn, can later function as stimulus-objects to establish additional unique cognitive relations. It is in this manner that conscious reflection can be understood as the principal mechanism for intellectual development.

Another cybernetic generalization that could be inferred from the previous discussion is that the human organism can be conceived, theoretically, as an immensely complex, integrated organic functional system, predisposed (because of its intrinsically interconnected structure) to maintain physio-chemical equilibrium amongst its organic mechanisms despite the continually disruptive influence of stimulus-object effects ingressing into its constitution via external and internal perceptual modes. Here, of course, the notion of 'disruptive' types of stimulation must be expanded to include consciously (symbolically) provocative stimulus-conditions as well as natural conditions. Also the term 'disruptive' is not defined, for our purposes, with its typically negative connotation; rather, we shall contemplate 'disruptive stimulus-object effects' as merely those capable of provoking changes of state -- whether physio-chemical or subjective psychological -- relative to former antecedent states (of equilibrium, or otherwise).

Further, it seems consistent to proclaim that the intrinsic structure of the human organism renders it capable of reconciling its constitutive states -- again whether physio-chemical or ideational -- with reasonably normal

external and internal stimulus-object effects. Such modes of behavioral reconciliation regularly entail "degrees of complexity" ranging from executing unconscious organic mechanistic functions; to consciously reflexive behaviors; to long-ranged, highly intelligent, reflectively constructed programs of purposive behavior. It follows, however, that those stimulus-object effects NOT reconciled with overall functional harmony, yield a dysfunctional influence upon behavior. The organism, in this situation (now assuming that the adverse stimulus-object effect determinately enters an organism's perceptual field), attempts to co-exist with the difficulty until a resolution can be effected; whether from dissipation of disruptive experiential intensity merely through temporal passage, as a result of reflective resolution, etc. Therefore, when problematic stimulus-object effects, or those for which no previously established habitual repertoire is suitable, ingress into organisms, all relevant organic propensities come to bear upon them; reflective consciousness, in its most effective manner, persistently endeavors to establish facilitative conditions for transcendent concrescence, in an effort to synthesize a novel efficacious habituation. If none is forthcoming, the organism must coexist with the problem, and if functional harmony becomes seriously impaired, therapeutic assistance, for example, is needed in an effort to restore behavioral integration. However, from the viewpoint of educational methodology and learning theories, some amount

of functional disruption is necessary for motivational purposes. But obviously this means that sufficient dysfunction is required to have a stimulus-object effect appear in a subject's perceptual field with adequate intensity to provoke constructive reflection; i.e., a cognitive impact designed to be commensurate with an individual's intellectual and emotional capacities.

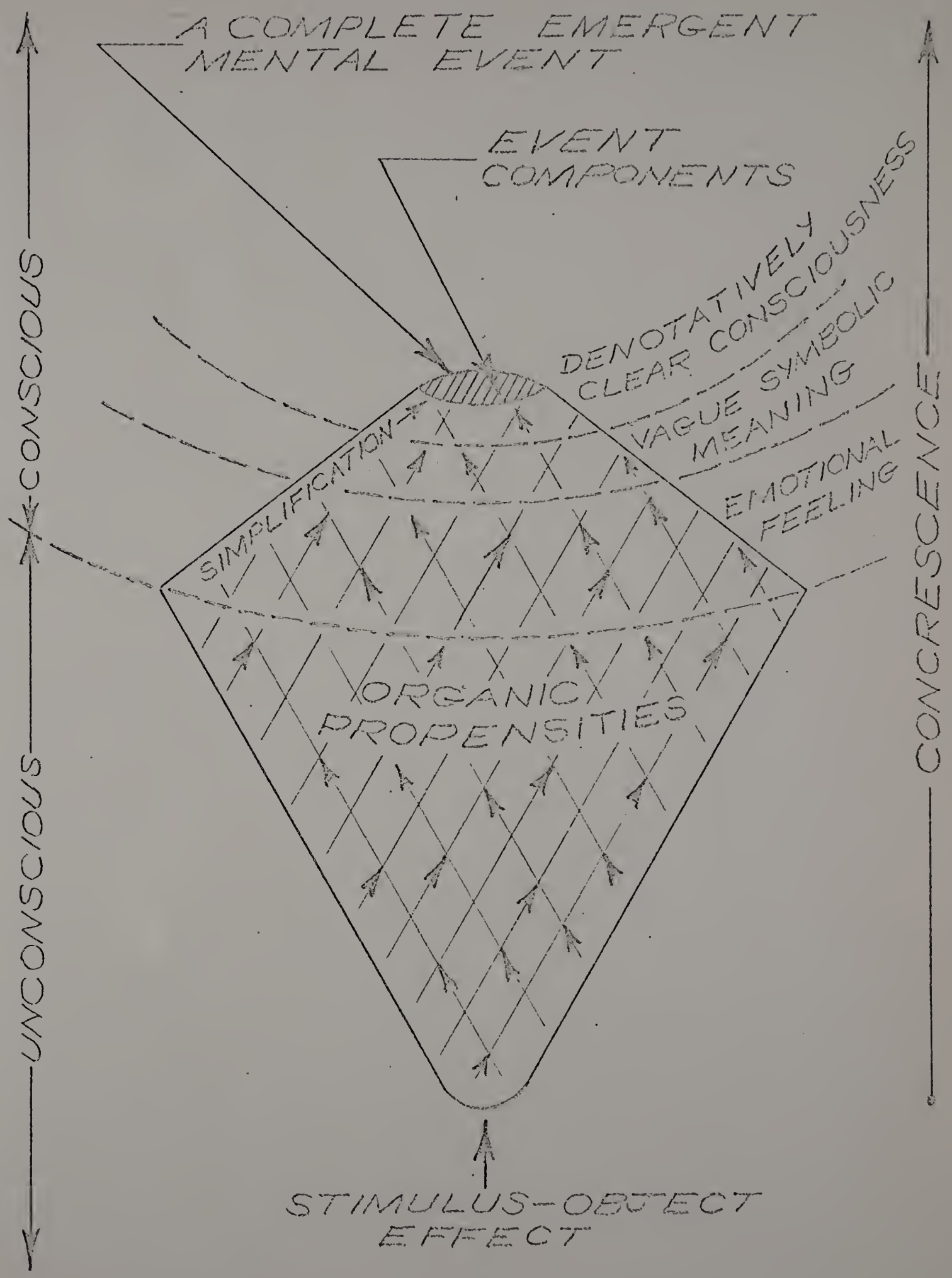
This concludes our formal endeavor to provide a mechanistic basis for the concept of mind to be developed in the next chapter. The writer does not (by any means) maintain that the constructs introduced in preceding discussion exhaust the possibilities for such formulations or modes for exposition, because many additional constructs could be fruitfully added. Rather, only those theoretical instruments were introduced which specifically enhanced our understanding of the mind-body problem as it has relevance for scientific psychology. It seems, then, that regardless of how unrelated the constructs of divergent schools of psychology may APPEAR when initially subjected to scrutiny, it is necessary upon more careful analysis, that they must at least be concordant, whether explicitly or by implication, with the scheme being developed, for the writer contends that this model consistently reconciles "mind" with "body". It is, perhaps, premature to assert this view without having yet considered the far more rigorous conceptualization of mental experience presented in "Chapter Three"; essentially a refined derivative from the arguments propounded

in the previous two chapters. The writer does NOT mean to say, obviously, that the "last word" has been said on the problem of 'mind and body'. Moreover, there is the genuine possibility that some of the aforementioned arguments may be subject to important criticism; and undoubtedly various arguments will need additional clarification and elaboration. But it is the writer's sentiment that the general philosophical psychological theory proposed in this discourse more effectively and systematically (at least in terms of the next chapter) confronts the full factual breadth of uniquely human experience (over and above the behavioral modes that man demonstrates in common with lower-ordered organisms) than other contemporary psychological theories of human behavior.

Figure #4 schematically represents the bare mechanistic structure of the theory presented in this chapter. However, the schematization can be more of a hindrance to careful understanding than a facilitative instrument if the difficult preparational work, entailing a careful reflective consideration of each successive argument as they collectively constitute a unified human behavioral theory, is neglected.

Before this chapter is terminated an important position on the mind-body problem articulated by Herbert Feigl must be critically analyzed in terms of the subjective psychological theory presently being developed. His view is of interest to that of the writer's, for the two theories yield

FIGURE 4


A COMPLETE EMERGENT MENTAL EVENT
EVENT COMPONENTS
DENOTATIVELY CLEAR CONSCIOUSNESS
VAGUE SYMBOLIC MEANING
EMOTIONAL FEELING
SIMPLIFICATION
ORGANIC PROPENSITIES
CONSCIOUS
UNCONSCIOUS
CONCRESCENCE
STIMULUS-OBJECT EFFECT

a fundamentally common conclusion, namely, that mental events are identical with correlative physio-chemical states only to the extent that the identity is ascertained through EMPIRICAL means. This thesis has been entitled the "Identity Theory of Mind and Body."[90]

Professor Feigl, who has written a penetrating, comprehensive article on the mind-body problem, has concluded that the resolution of this issue (one containing, as we have seen, a CONFIGURATION of difficult ramifications) must ultimately follow from the tenet that mental ("raw feels") events and physical (physio-chemical states) events refer to the SAME process. This means that there are two distinct ways of studying mental phenomena: we may investigate the cerebral states underlying given mental events, and also, the person who directly experiences the mental states may provide verbal reports about his inner states, for scrutiny by researchers. From this, Feigl concludes that there is an EMPIRICAL IDENTITY between mind phenomena contemplated on one hand as physio-chemical states, and while on the other hand, experienced through direct acquaintance by individuals themselves.[91] This is to say, as we have argued, that the mental state, "I feel sad", is not logically or analytically equivalent to its corresponding physio-chemical states S_1,

---

[90] V. C. Chappell (ed.), The Philosophy of Mind (Englewood Cliffs, N.J.: Prentice-Hall, 1962), pp. 19-21.

[91] Herbert Feigl, "The 'Mental' and the 'Physical'," ed. Feigl, Scriven, and Maxwell, II, 370-497.

S_2, S_3, ... S_N. Further, Feigl argues that mental events ARE CAUSALLY EFFICACIOUS BEHAVIORAL DETERMINANTS:

> Any solution of the mind-body problem worth consideration should render an adequate account of the EFFICACY of mental states, events, and processes in the behavior of human (and also some subhuman) organisms. It is not tender-mindedness or metaphysical confusion, I trust, which impels this repudiation of a materialistically oriented epiphenomenalism. Admittedly, the testimony of direct experience and of introspection is fallable. But to maintain that planning, deliberation, preference, choice, volition, pleasure, pain, displeasure, love, hatred, attention, vigilance, enthusiasm, grief, indignation, expectations, remembrances, hopes, wishes, etc. are not among the causal factors which determine human behavior is to fly in the face of the commonest of experience, or else to deviate in a strange and unjustified way from the ordinary use of language. The task is neither to repudiate these obvious facts, not to rule out this manner of describing them. The task is rather to analyze the logical status of this sort of description in its relation to behavioral and/or neurophysiological descriptions. In the pursuit of this objective it will of course be necessary to avoid both interactionism and epiphenomenalism; and it will moreover be desirable to formulate the solution in such a way that it does not presuppose emergentism...; although the door to a scientifically formulated emergentism need not be closed.
>
> In this same connection justice should be rendered to what is meaningful and scientifically defensible in the notion of free will and choice. If our personality-as-it-is at the moment of choice experiences itself in the choice made; if our choices accord with our most deeply felt desires, e.g., if they are not imposed upon us by some sort of compulsion, coersion, or constraints such as by brute physical force, by other persons (or even only by components of our personality we do not acknowledge as the "core" deemed centrally our "self"), then we are "free" in the sense that we are the doers of our deeds, the choosers of our choices, the makers of our decisions. In other words, it is in this case that our central personality structure is a link in the causal chain of our behavior, predominately, even if not exclusively,

> effective in the determination of our conduct. This sort of freedom (in the superb formulation of R. E. Hobart--Dickinson Miller) "INVOLVES DETERMINISM AND /IS/ INCONCEIVABLE WITHOUT IT."[92]

It is the writer's personal contention that the general view suggested by this quotation is representative of an unusually well-balanced philosophical position on the mind-body problem. Generally speaking, the writer does not feel that his view as it has been heretofore developed seriously contradicts that of Feigl's. It appears that even the concept of 'concrescent synthesis' is reasonably consistent with what Feigl regards as a "scientifically formulated emergentism". However, this is by no means to say that Feigl would be enthusiastic about the general theory being proposed in this paper, for his overall philosophical outlook seems considerably more in accord with an 'objective psychology' rather than what the writer would define as a 'subjective psychological science'. Feigl would undoubtedly criticize the writer's position as unwarrantedly speculative, and hence vague. The writer, on the other hand, would criticize Feigl for not referring to any scientifically appropriate theoretical formulations satisfactorily demonstrating, in detail, how subjective psychological states (or what Feigl defines more narrowly as "raw feels") could function in a causally efficacious manner, although (if his article is carefully studied) he does regard the relevant constructs of contemporary psychological theories

---

[92] Ibid., 338-339.

as suitable for investigating human behavior (again a point about which the writer would take issue). But current typical psychological theories persist in avoiding the problem of mind and its causal efficacity, in relation to correlative physio-chemical process; a limitation which subjective psychological theory can reconcile.

For both clarificational and constructive purposes let us now briefly examine some of the more important areas of DIFFERENCE between Feigl's Identity Theory and that propounded by the writer. Generally stated, even though Feigl maintains that we must acknowledge the necessity for an EMPIRICAL EQUIVALENCE between "mental" and "physical" events, the writer wishes to extend this view by arguing that physio-chemical states, in addition to providing the necessary conditions for "mental events", can also BE MODIFIED BY THEIR MENTAL EMERGENTS (i.e., mental events can promote transcendent concrescence). Because of the intrinsic structure of 'mental events' (a term defined by the writer in a way importantly different from Feigl's definition) /namely, as inextricably related units of perceptual components, portraying reality throughout given temporal durations, as they have relevance for (and are hence actualized as consciousness and reflective consciousness within) individuals during particular occasions/, inner and outer environments can be consciously FELT (recalling, now, the complex and technical manner in which this term has been defined for subjective psychological

theory) in such a way that progressively higher-ordered concrescence can be achieved. In fact, it is contradictory to conceive of ANY type of subjective psychological or logically MEANINGFUL discourse without necessarily presupposing A PRIORI this ontalogically unique mode of disciplined feeling, as its causal basis. To FEEL REALITY in the technical way defined in this discussion, is to engage in what is normally (though typically unclearly) conceived as thinking-behavior. But to characterize the process, for the moment, as FEELING reality is to suggest a considerably more comprehensive way of contemplating the profound complexity of typical concrete experience. Disciplined feeling is the medium through which stimulus-object effects can be meaningfully felt in their full, clear, profoundly (though vaguely apparent) related symbolically represented character. It involves the active process (whether occurring as conscious awareness or reflective consciousness) of the relevant symbolically characterized past coming constructively to bear upon present perceptual (i.e., stimulus-object effects) deliver-ance, such that the formerly learned WISDOM CAUSES the barren perceptually contributed present to be intelligently INTERPRETED as subjective psychologically meaningful. Thus in its fully actualized state, disciplined feeling is the denotative and connotatively felt symbolic components as they synthetically unite to render a natural or internal bodily stimulus-object effect intelligible. In any case,

without pursuing the matter further, private mental events ARE individual human organisms' ever-emerging spatio-temporally successive understanding of relevant reality, which undergoes revision and development primarily as a function of accumulated wisdom.

Therefore, as it has been argued in the first chapter, although an empirical identity between "mental" and "physical" (to use Feigl's distinction) states can be established, BOTH CATEGORIES OF PHENOMENA, AS THEY ARE CONCEIVED AS SUBJECTIVE PSYCHOLOGICALLY AND/OR LOGICALLY MEANINGFUL, ARE GROUNDED IN PRIVATE MENTAL EVENTS IN THAT MENTAL EVENTS MUST BE NECESSARILY PRESUPPOSED A PRIORI IN ORDER TO HAVE ANY INTELLIGIBLE DISCOURSE ABOUT EITHER CATEGORY OF STATES. Thus the ultimate basis for the distinction between "mental" and "physical", it will be recalled, was in determining the LOCATION of stimulus-objects yielding what we directly perceive as ingressed effects or perceptual event-components. Finally, the characterization '"mind" (i.e., in the "narrow" sense of denotative and connotative feeling, united as symbols) CONCOMITANTLY standing over against percepta' was used to portray the human organism's relation to stimulus-objects.

The difference between Feigl's and the writer's 'Identity Theory' can be somewhat more rigorously demonstrated in the following way:

FEIGL'S VIEW

1) Feigl argues FOR AN EMPIRICAL IDENTITY between "raw feels" and their underlying correlative physio-chemical processes.

2) "Raw feels" are mental events or the REFERENTS which are symbolically characterizable; those phenomena which are the direct intersubjectively INACCESSIBLE objects of verbal reports (e.g., pains, etc.).

3) Therefore, mental events can be systematically studied from a neurophysiological viewpoint and/or that of a psychology admitting, as suitable evidence, verbal reports REFERRING to directly accessible inner states occurring within individual subjects.

4) Feigl, then, ADMITS that individual verbal testimonies referring to inner, intersubjectively INFERRED states as legitimate evidence for scientific psychology PROVIDING such data are gathered under rigorously specified, experimentally controlled conditions.

5) Also, Feigl maintains that current molar psychological constructs (id. ego, self, operant conditioning, etc.) are suitable theoretical devices for systematically understanding "raw feel" phenomena by establishing operational definitions between given constructs and correlative mental events.

THE WRITER'S VIEW

1) An empirical identity is wholly satisfactory for correlating what the writer defines as mental events with their underlying physio-chemical processes (see also Zener's article[93]).

2) However, in Feigl's distinction between "mental" and "physical", the fact that a MIND (loosely defined by the writer as denotative and connotative symbolic meaning) must be presupposed A PRIORI to "stand over against"

---

[93]Karl Zener, "The Significance of Experience of the Individual for the Science of Psychology," ed. Feigl, Scriven, and Maxwell, II, 354-369.

BOTH "raw feels" (what Feigl defines as mental states, e.g., pain, emotion, etc.) and "physical" (what Feigl defines as intersubjectively directly perceivable states, or what the writer defines as external natural stimulus-object effects) EVENT-COMPONENTS in NOT CLEARLY EVIDENT FROM HIS ARGUMENTS. It is highly questionable whether he would admit to the BIPOLAR notion of 'mind standing over against percepta' at all. Therefore it seems that Feigl's "mental-physical" distinction suffers from the same 'epistemological vagueness' as the problematic 'public-private' dichotomy.

3) Further, since Feigl does not mention HOW "mental" states may function in a causally efficacious manner, and moreover, since current psychological theories, which he deems suitable for scientific enquiry, all appear to be vague, simply avoid, or resort to an unwarranted reductionism (see "INTRODUCTION") when confronted with this problem, it seems as though he would still like to ultimately maintain that all human behavioral states can be most satisfactorily understood and hence modified through dealing with physiochemical or manifestly apparent behavioral states; and that "mental-event" reports are merely psychologically expedient as evidential "check-points" for conventional theories, or as sources of data in neurophysiological experimentation.

4) Therefore, it appears that although Feigl has effectively argued in support of an empirical identity thesis, the serious difficulties cited in steps #2 and #3 above impose important limitations upon his position.

This compendious analysis of Professor Feigl's article, entitled "The 'Mental' and the 'Physical'", only minimally suggests the superb quality of argumentation embodied in his mature consideration of the mind-body problem. Unfortunately, a more extensive critical review of Feigl's position, although unquestionably warranted, would both interrupt the continuity of our argumentative progression, and moreover,

merely entail substantial repetition of foregoing material. Because his article is so highly relevant to the mind-body problem considered in historical perspective, it seemed absolutely necessary that the writer (at least) briefly comment on the alternate Identity Theory.

Before this chapter is terminated, the essential cogency of subjective psychological theory may be importantly enhanced (beyond the realm of sheer philosophical analysis) if we refer to responsible speculations on the nature and function of mind as conceived from a strictly empirical discipline. Also such a measure may be somewhat comforting to those who still perhaps wonder if the issues being considered are, in fact, genuinely problematic or conversely, "mere" philosophical sham. Therefore, as an additional source of evidential support, we shall avail ourselves to the unusually imaginative comments of J. A. V. Butler, an eminent contemporary bio-chemist. The writer will quote Professor Butler's writings at length and without elaboration, in an effort to preserve the inherent continuity in his mode of exposition. The quotations will be taken exclusively from the sixteenth chapter in his book, The Life of the Cell.[94]

Initially, with reference to the fundamental theoretical constructs of our "enlightened" mechanistic model, e.g., organic propensities, concrescence, etc., let us

---

[94] J. A. V. Butler, The Life of the Cell (New York: Basic Books, 1964).

consider the following passages.

> The most important characteristics of the brains of humans and similar animals is the ability to receive a composit message from a large number of sensory nerves. The part of the message received carried by a single nerve or even by a small group of nerves means nothing by itself. (p. 127)

> Into the brain comes most of the nerves from sense organs and out of it go most of the nerves which control the muscles. Can we discover what happens in between what paths are taken by the impulses which enter the brain through excited nerves, and how a coherent pattern is constructed from the messages arriving down many nerves? (p. 128)

> Millions of brain cells may thus be concerned with receiving a single visual impression. How do they cooperate to produce the total instantaneous impression? (p. 128)

> There is undoubtedly a great deal of electrical activity going on in the brain at all times.... With this instrument (an electroencephalograph - the writer's comment) an overall rhythm of electrical activity can be detected. This must be due to many circuits between neurons oscillating in unison. The reason for this is not clearly known. The oscillations may be similar to a 'carrier wave' on which the sensory imput produces modulations. The character of the oscillations varies with the mental state. (p. 128)

> The brain deals with the innumerable sense impressions by producing a 'picture' which we perceive -- for example in the use of our visual sensations, this is the 'picture' we are aware of when we look at our surroundings. (p. 129)

> This 'picture' which we perceive is not like a photograph -- a mere projection of what we are looking at. It is itself an interpretation of the actual visual experience, which involves our previous knowledge and therefore our memories of similar scenes.... Infants also learn to interpret their visual impressions similarly and only slowly build up an understanding of the sensory information which reaches them.
>
> The visual information which is received at any one time is therefore not interpretable by itself. The 'picture' we make of it is an amalgam of the present and past experience. (p. 129)

> ... the sensory impressions of the moment take their place with the memories of those which have previously been interpreted, and have become part of our store of knowledge. They become of a record which has been continuously built up since birth. (p. 130)

> But the main purpose of memory is not the recollection of the past, but the recognition of the present. Memory is used mainly to recognize and identify the images of our present experience and for this purpose it is usually sufficient only to notice the salient features, unless there are some details of urgent interest. (p. 130)

> We might ask ourselves how the composite amalgam of sense data and the memory data... is presented as the 'picture' or perception we become aware of. It is possible that the whole matrix of impulses from the sense organs, now united with and interpreted by comparison with the memory record pass into a further echelon of cells in which the perception we are aware of is produced, i.e., it enters our consciousness. This level is very selective in its ability to attend to certain parts of the whole sensory imput and to ignore others. This is probably achieved by lowering the critical barrier necessary for the passage of impulses for some groups of sensations and raising it for others. (p. 132)

Next, Dr. Butler deals with the problem that we have described as emergent consciousness and conscious reflection.

> It is... possible to give some sort of account of the physical events which produce sensations, but what are the sensations themselves? We could say that this is how the physical events are experienced, but we must ask then, experienced by what and what is the nature of experience. The perceptions themselves are not capable of being described in physical terms. Thus we cannot describe our experience when we see a green object in say physical terms. It cannot be described in physical quantities like length, velocity, force, orbit, wave length, temperature or even in the language of the quantum theory. Our only knowledge of it comes from our own experience, or from the description of others of their experience. Must we discuss it as an illusion and pseudo-phenomenon, which has no reality because it is only a description of how

things appear to us subjectively and not as they are.

I think perceptions ought to be related to the rest of scientific knowledge; but we have no means, other than investigating the physical background, of dealing with them and this only tells us how they are produced and not what they are. (pp. 134-135)

As I have said above, the (sensory) information is organized into a kind of picture, which includes both the present experiences and those remembered from the past. But how is this picture used in producing actions? There must be a stage at which all the information is reviewed in light of past experience and decisions are reached to act or not to act, and orders are then issued to the muscles. (p. 134)

Much of this (nervous) activity is entirely unconscious. All we are aware of is an intention to perform a certain action and the brain and central nervous system do the rest. (p. 134)

The important feature of voluntary actions is that the necessary muscle operations have to be LEARNT. We are not born with the ability to perform complicated voluntary actions. (p. 135)

So we see from all this that the connections in the brain between sensory information and the muscles is not direct. The sensory information is built up into a continuing record of sensation and experience. (p. 136)

All that is required for the whole sequence to be "triggered off" is a stimulus or order from the higher level of cells in the brain whose decisions are made and it appears to be at this level that the connections between the 'sensory picture' and the muscular stimulation are made. (p. 136)

The last sequence of quotations will deal with Butler's concept of symbolic behavior.

What are the characteristic features of human intelligence? There is undoubtedly a greatly increased power of discriminating, remembering and interpreting sense impressions. The human being connects his immediate sensations to a much greater extent with his past experience,

and the result is an enormous structure of experience accumulated throughout life. His 'intelligence' is a measure of the skill and ability with which he uses the accumulated experience.

But this is not all -- or even the most characteristic feature of human life, which is the ability to replace the sensory experiences themselves by symbolic equivalents which can be manipulated in the mind. This involves associating one kind of experience with something totally different in character. (p. 137)

Some physiologists and psychologists find in the conditioned reflex a sufficient explanation of all kinds of behavior which are not completely instinctive.... This may be so in some sense, but it overlooks the enormous amount of experience and its organization which human beings bring to the task of discrimination.

The important characteristic of human beings, which is almost completely lacking in all other animals is the fact that accumulated experience (= knowledge) is organized and stored mainly in the form of symbolic equivalents. This can be supposed to be a consequence of the case with which the human brain makes associations between even unlike things. This has given rise, for example, to human language, which is the necessary basis of human society. In language there is an association between particular experiences and particular uttered sounds. The sounds are produced by muscular movements in the chest and throat, and like all other complex movement, have to be learnt.... There is nothing necessary about these associations -- in many cases the sound has little in common with the experience it represents -- it is purely conventional association. But in one way or another particular sounds have come to mean, for groups of people, specific types of experience.

The ability to replace actual experiences by symbolic spoken equivalents has led to all the features which distinguish human life from that of the higher animals, because when experiences have been converted into spoken (and later, written) equivalents they can be communicated from one person to another and they often acquire a greater amount of permanence than the actual memory of experience, because it is often easier to recall the symbolic expression of an experience (in words) than the experience itself. It is easier to remember that you were

> tired on a certain occasion than to remember just what being tired felt like.
>
> In this way it came about that besides their rather fragmentary simple memory of events, human beings have a memory of their symbolic expression. The latter is easily communicated from one individual and provides a means of sharing experiences, which can never or only rarely be shared directly, except by the actual participants. Human knowledge is in fact the shared experience of the community, expressed symbolically. (p. 139) See also another book by Butler, Science and Human Life.[95]

The writer feels that the views of Professor Butler are generally concordant with the philosophical psychological position developed in this paper. The numerous quotations extracted from Butler's writings served as a highly appropriate, intuitively intelligible summary for this chapter.

---

[95] J. A. V. Butler, Science and Human Life (New York: Basic Books, 1957).

CHAPTER III

Section 1

Let us briefly recapitulate our developing train of argumentation, to more effectively facilitate a comprehension of the major problem to be considered in this chapter. In an overly simplified fashion, our investigations heretofore may be essentially stated as follows:

1) In the "INTRODUCTION" it was argued that both Psychoanalysis and Behaviorism had to resort to explaining human behavior in terms that were unwarrantedly reductionistic. That is, in both cases, the theoretical systems logically reduced to a materialistic-mechanistic epiphenomenism. Thus each theory comprehends man in terms of those dimensions shared in common with lower-ordered "substance" and organisms, hence relegating mental events to a causally inefficacious status. Client-Centered theories, on the other hand, tended to place excessive emphasis upon the "uniquely human" dimensions of man (or his stream-of-consciousness), thereby devoting insufficient attention to the mechanistic aspects of human behavior. More important, however, is that Client-Centered theoretical constructs tend to be definitionally vague, and therefore relatively problematic for rigorous scientific investigation (this criticism also applies to Psychoanalytic theories).

2) The first chapter dealt with a more precise analysis of Behaviorism, conceived as a "methodological" enterprise. We discovered that its reductionistic proclivity resulted from what was termed as an 'epistemological vagueness', in effect, discounting -- even avoiding -- mind as a necessary causal factor in ANY humanly conscious or reflective conscious behavior. However, in our critical analysis

of Behaviorism, it was seen that with regard to ALL human perceptions (both of internal bodily phenomena or external natural phenomena), MIND must be NECESSARILY presupposed a priori as a causally efficacious factor in human behavior (or what has been more rigorously defined as subjective psychological experience).

3) Also in the first chapter, Dewey's concept of intelligent behavior was briefly considered, and it was discovered that he frequently wrote "as if" he had Behavioristic inclinations, but actually, much of his terminology contained innumerable "mentalistic" connotations. Thus Dewey, for our purposes, became something of a transitional figure in that we capitalized upon his highly important Instrumentalistic and "mentalistic" views, later incorporating some of these concepts into what the writer considered to be a more comprehensive, and logically adequate model for human behavior. In this way we were able to incorporate several of Skinner's and Dewey's methodological and theoretical concepts into our model.

4) "Chapter Two", beyond introducing what the writer contends to be an "enlightened" mechanistic model for human behavior, dealt with the crucially important problem of symbolism as a uniquely human class of causally efficacious behavioral determinants, facilitating organisms' interpenetrative relationship with their co-existent environments. Here, for a partial theoretical framework, we draw upon the penetrating wisdom of Ernst Cassirer. Cassirer clearly maintains that the human capacity to symbolize, essentially introduces a NEW DIMENSION to reality in that man no longer deals directly with his environment; rather a symbolic "screen" intervenes -- hence organizes -- our perceptual experience such that man becomes, to a great extent, conversant with himself through a personally innovated version of the internal and external worlds. Since the writer propounds a view concordant with a scientific emergentism (specifically with regard to the emergents, 'consciousness' and the higher-ordered mechanism 'conscious reflection', causally operating as factors in human behavioral determination), it appears quite conceivable that Cassirer's basic philosophical orientation is not seriously discordant with that of the writer's. At least

it seems that Professor Cassirer's thoughts on the development and function of symbolism can have great relevance for the theory being developed in this paper. Thus, working upon this assumption, we proceeded to demonstrate how it was possible, from a subjective psychological theoretical viewpoint, to explain the development of thought (defined as ideational feeling) from emergent, originally undisciplined emotional feeling; phenomena which with their higher-ordered disciplined, cognitive derivatives, must be assigned FACTUAL STATUS is the scientific (psychological) study of human behavior.

5) This last issue brings us up to date in that we must devise a scheme -- a theoretical model -- which permits us to attribute a factual status to causally efficacious mental or subjective psychological phenomena. In the chapter on "Facts and Theories", it will be argued that it is impossible to isolate what may be ideally regarded as a "pure" or uninterpreted fact, for 'fact' NECESSARILY implies a configuration of explicitly specified or implicitly present (conceptually) INTERPRETIVE information, thereby confounding bare perceptually "given" fact with a cognitive element NOT directly implicit in the independent phenomenal "given" (being considered at a particular time). In essence, this is a difficulty whose problematic basis resides in the same confusion we had encountered with respect to the logically contradictory notion of "pure percepta". It was proven, in the former case, that it is UNTHINKABLE to conceive of pure percepta without a mind which "stands over or against them". This is to say, regarding both facts and percepta, that there is an additional (necessary) concomitant factor which must synthetically accompany the "pure givens", namely the element of SYMBOLIC MEANING -- an entirely subjective psychological phenomenon intrinsic to human cognition of any kind. With respect to the problem of facts and theories, the interpretative element IS the MEANING which cognitively illuminates the bare "given" percepta. Here, meaning is definitionally understood to be the subjective psychological symbolic element necessarily presupposed a priori in ALL possible factual assertions. The point to be made at this time, however, is that the subjective psychologically meaningful or interpretative element concomitantly, hence

> synthetically uniting with contributed external (and this view shall be broadened) perceptual deliverance, is what we mean by mind. Therefore the central problem to be comprehended, and hopefully partially resolved, is to precisely define the intrinsic nature of mind, and to rigorously designate its function as a necessary condition for human experience of ANY kind. This completes the hasty recapitulation of our discursive progress heretofore.

Section 2

Thus far we have defined mind in a very indistinct way, but one adequate for argumentative purposes. This tactic was used to clearly differentiate between the two major divisions intrinsic to the process of intellectually understanding anything whatsoever, viz., mind as an entity which generates subjective psychologically meaningful interpretations AND that which is subject to interpretation, i.e., percepta. Also this division was emphasized to reveal the vital importance of what is generally regarded as awareness, or consciousness and reflective consciousness in that they are indicative of distinctive mind functions, and more generally, refer to the structure of ontalogically unique, emergent ideational feeling. Ideational feeling is a general term referring to a particular class of disciplined emergents within the more comprehensive domain of emotional feeling. Emotional, and thereby, ideational feeling ARE the directly experienced stimulus-object EFFECTS of underlying or correlative physio-chemical mechanisms (stimulus objects) which yield these unique ontalogical emergents. Finally, the "mind standing over and against percepta" distinction

was used to critically evaluate those theoretical systems methodologically predisposed to an unwarranted scientific reductionism because of their materialistic presuppositional bases.

In our constructive theoretical endeavors we have laid a firm foundation, however, one in need of considerable elaboration in order to develop a definitionally precise system of theoretical instruments suitable for highlighting, and hence, embodying the LOGICAL FORM in which subjective psychological experience can be scientifically comprehended. In effect, then, the task that lies before us is to develop a theoretical model which can universally characterize the FORM, demonstrating "mind" coming constructively (psychologically meaningfully or interpretatively) to bear upon percepta (the "given"). Such a scheme must define the entities, "mind" and 'percepta', as well as demonstrate their relationship to one another. This enterprise must surely impress the reader at this point as far more problematic and difficult than it, in fact, actually will be, when pondering the matter in retrospect. The chief merit of the theory to be presented -- one which is in varying degrees a modified version of that articulated by Whitehead[96] -- is its RESULTANT, far-reaching simplicity. More specifically, it is the view that concrete experience is the ultimate ground from which ALL cognitive ENTITIES and their MODES OF

---

[96]Whitehead, Process and..., op. cit.

(SYNTHETIC) RELATION are essentially derived. The task, then, becomes one of designating the LOGICAL FORM intrinsic to our subjective experience of the natural world and our bodily organism, such that it will be appropriate for a subjective psychology.

Now we shall once again briefly reconsider the preparational measures previously elaborated, so that additional constructs may be resultantly developed to characterize mind. At the outset, an important definitional modification must be made. Throughout the paper, mind has been loosely defined as "that which stands over against percepta". Also it was said that mind and percepta must necessarily occur concomitantly in a synthetic union. When subjected to careful critical analysis, the vagueness of these distinctions becomes readily evident. First, one is tempted -- legitimately -- to ask about the nature of 'THAT' which "stands over against percepta". Also, one may rightly argue that the original formulation implies that there should be a more comprehensive term which includes BOTH components of the synthetic union; e.g., the definition implies something "more" occurring than merely mind, namely, the CONCOMITANT ACTUALIZATION of mind AND percepta. Therefore these anticipated criticisms demand a revision in our definition of mind. The writer shall consequently propose the following: mind is that subjective psychological process in which percepta come to bear upon other percepta, such that a concomitant synthetic union is achieved. At face value this definition

may appear more problematic than the one it was designed to replace, therefore, further explication is needed to render it logically tenable. First it will be seen that the definition of 'mind' has been renovated to include BOTH dimensions of the two-aspect process of 'percepta coming to bear upon other percepta'. But now we ask, is it not tautologous to maintain the definition, 'percepta coming to bear upon percepta'? This criticism may be countered by saying -- although it is not analytically evident from the bare definition as it is thus stated -- that implicit within the definition is the possibility for FOUR distinct classes of percepta. To make this issue more intelligible we must recall our discussion on symbolism. It was said that there are three separate aspects to meaning for every linguistic symbol. For example, with respect to the symbol 'red', there is first the clear and distinct word 'red', in its bare particularity as a distinct natural world (i.e., verbally uttered) sound. Second, we move to the less determinate level of subjective psychological meaning when we contemplate the vaguely conscious substantive linguistic symbols, which in their relatedness, add "flesh" to the "bare-boned" symbol, 'red'. The concepts 'color', 'sight', 'light wave', 'hue', etc. might concomitantly be implicit in our notion of 'red'. Third, it will be recalled, there is an even more vaguely conscious emotional periphery of subjective psychological meaning embodied within linguistic symbols. It is possible that contained within

the concept 'red', for example, are such highly unspecific primordial recollections as 'a particularly pleasing experience of having perceived a special red object', 'the warm red glow of a fire on a winter's evening', and so on. These last two levels of meaning are what we have defined as MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Therefore, even in an apparently simple symbol such as 'red', there are three levels of "stored" experience, ranging from that having been highly (i.e., denotatively) symbolically disciplined to that which was emotionally grasped in a comprehensive but symbolically unclear manner during past experience. These levels of subjective psychological meaning occur concomitantly when we think the thought, 'red', for example. This is the uniquely human phenomenon defined as subjective psychological experience. Consequently, with respect to our most recent definition of mind as 'percepta coming to bear upon other percepta', we may contemplate the event (for example) 'I see red'. Here there is a subject-object dichotomization equivalent to the notion 'percepta coming to bear upon other percepta'. Hence the first class of percepta would include what we have defined as MEANING-AS-DIRECTLY-FELT RELATEDNESS AND the DENOTATIVE symbolic component, 'red', while the second class of percepta would include the natural world stimulus-object EFFECT, i.e., 'the perception of a red color'. Therefore, our most recent conception of mind now possesses considerably more cogency than when the revised definition was initially introduced. The reader

must, however, be cautioned that although the present definition of mind is more internally consistent than the original one, there is a great deal yet to be said about the nature of mind; thus the definition will be subjected to subsequent revision as we proceed with our enquiry. This necessity, for expositional reasons, is rather unfortunate because the task of comprehending the ensuing subject matter becomes importantly more laborious for the reader. The writer (regretably) has conceived of no more simple method for presenting his views without sacrificing important aspects of the evolving overall argument. We are engaged, as it has been formerly mentioned, in a cyclical process of moving from vague understanding of problematic circumstances to a more clarified understanding. But paradoxically, although our more profound comprehension not only yields us greater (relative) clarity in comparison with our previous level of understanding, it conversely places us in a position to raise more compelling questions as well!

It is evident from our preceding discussion on developing an adequate conception of mind that symbolic thought constitutes a predominate portion of what can be understood by the concept, mind. This fact is manifestly clear in our deceptively simple example, 'I see red'. It was seen that through MEANING-AS-DIRECTLY-FELT-RELATEDNESS with its (denotatively) clear symbolic focal point, the complete intelligible symbol 'red' came CONSTRUCTIVELY to bear upon the perception 'a red color' -- to the extent that

it CAUSED the subjective psychologically MEANINGFUL experience, 'I see red'! This is an extremely important phenomenon, so we shall subsequently subject it to careful scrutiny. This is precisely what is meant by the statement, the wisdom of the past coming constructively to bear upon the present, hence rendering the present occasion personally meaningful. But before we proceed to develop this basic notion, a further clarificational comment must be made.

In the second chapter a somewhat speculative theory of symbolic development had been presented. Beyond constituting a moderately determinate analysis of the developmental stages that a human organism undergoes in learning linguistic behavior, the presentation was also intended to be an argument demonstrating the possibility that emotional feeling can be subjected to such extensive discipline that it is gradually transformed (through learning) into what we subjectively experience as human thought or ideational feeling. More specifically, the writer has maintained that the development of symbolism can be explained as the individual human organism's endeavor (made possible by the intrinsic STRUCTURE of the organism) to ACTIVELY ORGANIZE and CLARIFY originally primordial, directly experienced, undisciplined emotional states. Therefore as a consequence of such an extraordinary program of discipline (a program greatly facilitated by interpenetrative relationships with other organism already capable of executing symbolic behavior), phenomena defined as ideational feeling are

generated. Further it was argued that these ideational states, whose intrinsic substantive nature is disciplined -- hence sublimated -- emotional feeling, possess a unique ontalogical status among other types of being. The unique ontalogical emergent, ideational feeling, is an extraordinarily sophisticated emergent product of an organism whose physio-chemical structure manifests indeterminate complexity and integration among its numerous organic mechanisms. Nevertheless, there seems to be no evidence to suggest that IN PRINCIPLE the phenomenon of ideational feeling should not be regarded as a scientifically determinate emergent occurrence. The intrinsic, substantive nature of ideational feeling seems to indicate that its originally undisciplined, vague experiential quality is gradually sublimated to the extent that a clearly conscious symbolic precision is resultantly in evidence. This is to say that former, spontaneously arising, unwieldly, highly vague emotional states undergo subsequent symbolic ATOMIZATION so that primordial emotional states, essentially characterized as primitive urges, progressively became symbolically characterized. As a result, many precise, hence simplified, distinctions amongst experienced entities, their properties and their relations evolve, as their perceived EFFECTS ingress into our subjective psychological awareness and are therein actualized as concrete unified experience. Where once personal experience consisted merely of chaotic, undifferentiated externally delivered perceptual flux,

co-existent with sporadic emotional feeling, there later arose, after considerable disciplining, a vastly complex system of symbols, transforming personal experience from amorphous percepta into succinct, highly flexible, meaningful ideational forms. These (denotative) clearly conscious forms, as we have seen, also have two additional concomitant levels of meaning, together termed MEANING-AS-DIRECTLY-FELT-RELATEDNESS containing both vaguely understood linguistic symbols and relevant (highly subtle) emotion; these latter two realms of meaning embody the wisdom of the past. Therefore symbolic development necessarily entails that the individual can no longer respond to internally or externally located stimulus-objects with the full uninhibited and comprehensive emotional vigor, characteristic of primitive intellect. Rather, he must respond, and now ACTIVELY approach his environments within the breadth and limits of his symbolic capacity -- a power that, in effect, defines the intelligible domain of his species. We have only to recall the penetrating words of Cassirer to understand the revolutionary effect that symbolic acquisition has had on the mentality of mankind. It is impossible to over-state the significance of this achievement, especially in an age in which preponderant systematic attention is devoted to the LOGICAL coherence and PHYSICAL properties of symbolic expression, distinct from the subjective psychologically MEANINGFUL BASIS WHEREBY THE FORMER GAIN THEIR EXISTENTIAL POSSIBILITY IN THE MIND OF INDIVIDUAL HUMAN BEINGS.

Consequently, it will be one of our primary objectives in this chapter to SYSTEMATICALLY investigate, in some depth, the intrinsic nature and function of symbols (particularly linguistic) for, as we have seen, they constitute a major portion of mind, conceived as a coherent and basically consistent subjective psychological process.

Before we begin our systematic development of theoretical constructs for comprehending the logical form of subjective psychological experience, there is an additional topic on symbolism that must be considered in order to accentuate the great POWER of MEANING-AS-DIRECTLY-FELT-RELATEDNESS in its capacity for illuminating both the emotional and intellectual dimensions of our directly perceived, and hence reflectively clarified, experience.

1) In our previous discussion on the developmental process of symbolic acquisition presented in "Chapter Two", it was seen that at the PRESIGN state, infants' initial experience of reality (and this, of course, is quite hypothetical) seems to be primarily introverted, in that neurological processes necessary for organizing percepta have not yet been sufficiently integrated. An indication of this would be the incapacity to differentiate between internal and external environments, for consciousness would, undoubtedly, be constituted of vague or imprecisely discernible perception, whether occurring via external or internal bodily senses. Thus it appears that the most conspicuously comprehensible states would be internal bodily pleasure and pain in their gross, sporadic deliverance. These states would be enjoyed by the organisms within their durational occurrences, but nothing like the higher-ordered phenomena of recollection (i.e., of formerly experienced states) or anticipation (i.e., of pleasurable states as distinguished from painful ones) would yet be in evidence. Similarly, an infant awareness that states of pleasure or pain are

attributable to causal factors will also be absent. This is merely to say that during the particular experiential occasion of actually consuming food, for example, an infantile consciousness is comprised of many pleasurable perceptions; however, the infant will not yet REALIZE that it is the 'mother appearance' that causes the deliverance of food, which in turn, causes the pleasurable internal experience. It is unlikely that infants, at this stage, could adequately discriminate amongst visually perceived objects with sufficient accuracy to have established a recollection of a visual mother-image. Probably, primordial recollections of formerly experienced states would originate from being physically held, and affectionately comforted. In this, the emphasis would be upon highly concrete physical interaction with a substantial externality. These types of perceptual experiences have immediate bearing upon infant emotional states as they occur in great frequency.

2) Next it was said that, as a result of increased neurological integration and storage of new experiential data, infant mentality develops to a point where a vague emotional understanding (issuing from an ACTIVE concrete interpenetrative relationship with a tangible world of solidity that can be bitten, grasped, etc., with reciprocal correlative EFFECTS consisting of pains, tastes, etc. -- all of which are emotionally realized to have a consciously enduring, coherent perceptual nexus in a peculiarly intimate region becoming progressively more clearly understood as a self) of the fact that there is an "out there" -- a domain that is independent of a more personal region. Further, there is the realization that externality does have a very real quality of indeterminacy, in that merely because the personal urge for satiation or pleasure may be projected to the exterior realm, commensurate gratification does not necessarily follow. An infantile notion of causality can develop out of such concrete experiences as 'mother-warmth', 'mother-pain reliever', 'mother-food provider', 'food-pleasure', etc. From these bare emotional (recognitional) predispositions, the higher-ordered behavior of PROJECTING emotion arises in relation to an entity residing in an external region. Similarly such behaviors as anticipation, for

example, emerge out of former variable conditions of satiation and deprivation.

3) The next important advance that was stressed occurs when the infant develops the primordial sense of POWER, discovering that his internal experiential states are not wholly contingent upon the whims of externality. During early infancy, cries issued spontaneously from painful or importantly uncomfortable experiences. But later, after a gradual, vague, reflective recognition that personal vocal outbursts frequently brought motherly attention, some moderate element of premeditation -- facilitated by such causal factors as recently acquired emotional predispositions for a sense of the internal and external; a sense of projection; a sense of causal relationship, etc. -- begins to regularly operate as a causally efficacious infant behavioral determinant. This is to say no more than the wisdom from an experientially RECORDED past is now beginning causally to determine organism's responses to stimulus-object effects in a way TRANSCENDING mere mechanicality. Meaningfully intelligible, consciously REFLECTIVE awareness is beginning to appear as a minimally disciplined emergent, succeeding former emotional urges whose causal potentiality remained unutilized for lack of concentrated, disciplined conscious SPECIFICITY. Thus the nebulous recognition of POWER is one of the first manifestations of an organism's INGENEOUS or INNOVATIVE ability for ACTIVELY dealing with reality.

4) The SIGN stage makes its appearance from children's desire to, perhaps initially, secure the attention of other human beings, thereby yielding the primitive subjective psychological experience of SECURITY. For example, in the development of speech, a child will reflexively mimic the vocal sounds expressed by a mother; not out of an intellectual understanding of the rational MEANING and power of verbalizations, but rather, out of the concrete fact of being given ATTENTION, and as a matter of CURIOSITY -- a factor crucial for promoting a discriminatory attitude toward perceptual deliverance.

5) As the SIGN stage persists, during which a rich backlogue of PRErational experience is acquired

(e.g., learning how to duplicate sounds, learning to "exchange" sounds with other human beings, etc.), children gradually develop the realization that spoken sounds REPRESENT external entities (marking the onset of the 'SYMBOL' stage). The illustration formerly used referred to the term, 'mama'. Whereas at the outset of perceptual recognition, the word was merely meaninglessly repeated; but slowly as a result of highly subtle bits of learned information, a child comes to UNDER-STAND -- to make emotional associations between previously established recollections and newly ascertained information -- that the spoken word REPRESENTS all of his 'MAMA-experi-ence'. Hence an entire backlogue of infantile experiences with mother can be CONCISELY CONJURED and subsumed to the sound, 'mama'. Moreover, in this, all of the vaguely felt emotional affection, issuing from an urge to immediately and comprehensively communicate a history of intense, but highly amorphous emotional meaning, can be PROJECTED at the externally located mother-entity. In fact, apart from the physical presence of mother, the spoken word 'mama' is a powerfully concise way of promoting self-initiated, consciously pleasurable experience, for the verbal utterance is a means for RE-ENJOYING the relevant past.

6) Once this power has been recognized, the process is frequently repeated with different verbal symbols, thus building up a verbal repertoire REPRESENTING categories of vivid emotional experience. From this, children derive the enormously gratifying recognition that the strange world of experience can be UNDERSTOOD and symbolically retained for future reference, by characterizing objects -- objects with curious, suggestive and enjoyable properties -- with spoken words.

7) Finally we saw how children make their final triumphant linguistic discovery, namely, that spoken words can be <u>RELATED</u> to one another, thus providing the possibility for arranging sequences of words into desired rational configurations; a condition necessary for coherent thinking. Now, upon having attained the 'symbol' stage, a basic understanding of the <u>RELATEDNESS</u> of things is achieved. Not only are words used as instruments for

organizing (hence "storing" for future reference) similar categories of personal emotional experience with respect to particular external objects of importance and curiosity, in addition to being means for satisfying basic urges and desires, but now they become devices for enabling personal ideational experience to CHARACTERIZE CHANGING RELATIONAL STATES as they are perceptually apprehended. Even more important, at a higher level, symbolically defined ENTITIES and PRINCIPAL MODES OF RELATIONSHIP AMONG ENTITIES can be IDEATIONALLY SYNTHESIZED into many PERSONALLY DESIRED configurations! These sophisticated levels of operation are made possible through conscious reflection, a phenomenon about which we will have much to say. Since the 'symbol' stage enables DYNAMIC experience to be characterized -- whether it occurs as natural or ideationally synthesized phenomena -- the IMPORTANT elements of original experience, as symbolically simplified, can be recalled at a later time with relative ease. Here a fundamental difficulty in evidence at the 'sign' stage (viz., that the word 'mama', for example, concisely represented a large number of accumulated, EMOTIONALLY VAGUE recollections of 'mama-experience', but ones whose original experiential qualities lacked symbolic discipline, and thus precision, and were therefore forgotten because of the organism's inability to clearly symbolize important attributes of those occasions) is effectively transcended.

8) Thus as more words are learned and INTEGRATED into an increasingly complex symbolic framework (a cognitive structure whose intrinsic quality is INTERRELATEDNESS AMONGST LINGUISTIC SYMBOLS), language (hence ideational feeling) becomes correspondingly less emotionally charged, and steadily acquires a more disciplined quality. By this we mean that the experiential nature of sophisticated thought or ideational feeling is steadily transormed into what we have defined as mature MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Here primordial emotional experience has undergone extensive symbolic atomization, thereby dissipating its intense somatic quality through its SUBSEQUENT (NUMEROUS) SYMBOLIC QUALIFICATIONS. To illustrate this point, we need only compare the behavior of a young child when confronted with severe disappointment with that of a mature

adult encountering commensurate disappointment. In the former case, intense emotional feeling arises within the child's organism, followed by an uncontrollable period of crying. The adult, however, although similarly experiencing intense emotion, dissipates this felt state, frequently, through symbolic (MEANINGFUL) expression, consequently retaining his rational composure.

Symbolic proficiency also promotes an increased awareness of the infinite detail manifested by the natural world (therefore stimulating a desire to symbolically characterize this detail), consisting basically of objects, both the static and dynamic relationships among objects, and the properties of objects.

Finally, internally experienced objects and relations are symbolically designated. At this higher level of development, consciousness consists, primarily, of sophisticated systems of symbols, the linguistic forms of which are clearly comprehensible because of their disciplined denotative quality. Therefore these can be fashioned into quite precise and unique patterns. At this stage, the unsymbolized periphery of emotion, intrinsic to every linguistic symbol, has been exiled to, at best, a status of infrequent and already obscure comprehension. However, vague as its character may be, it is this element in symbolic thought that provides the basic "substance" of consciousness. This is demonstrated by the fact that human organisms have a secure FEELING about the orderliness and consistency of things; they FEEL at home amongst the world community; they FEEL that life can be meaningful; they FEEL primitive urges, compulsions, drives motivating them to establish determinate programs of action, very often proceeding well into the future; finally, at their highest levels, a profound, acutely sensitive aesthetic FEELING is experienced, as harmonious functional virtue is achieved when an organism's symbolic and emotional resources have been efficaciously embodied within creative, action-oriented behavior.

9) This particular argument, as it has been heretofore presented, is predominately a concise restatement of the "Theory of Symbolic Development" advocated in the second chapter. There are three reasons for having done this:

a) It is important to refamiliarize the reader with the fundamental complexity of concrete experience; a complexity so subtle that its philosophical and scientific implications are easily overlooked in an age when our mentality is constantly exposed to symbolic abstractions, very often mistakenly construed as concrete fact.

b) The discussion of early life symbolic acquisition stimulates a sensitivity to the great inadequacy of naive mechanistic theoretical constructs for revealing and elucidating causal behavioral determinants, because of the intrinsic disparity between the realms of materialistic mechanism and conscious experience.

c) Finally, the argument, as presently developed, provides an introductory basis for illustrating the bewildering complexity of even simple learning tasks -- tasks which, for a typical adult mentality, can be executed with such ease that their accomplishment goes completely unnoticed. The significance of this illustration will be in demonstrating the enormous symbolic QUALIFICATIONAL POWER of what we have defined as MEANING-AS-DIRECTLY-FELT-RELATEDNESS (or the 'wisdom of the past'), as this symbolically and emotionally vague domain comes CONSTRUCTIVELY (and concomitantly) to bear upon denotatively symbolized perception, thus ACTUALIZING what we directly experience as subjective psychological meaning.

10) A forceful example, meeting the conditions specified in "c", above, is the process in which an individual assigns a symbol to REPRESENT a given phenomenon. Therefore, we shall face the problem of how an individual symbolically characterizes a particular perception. Rather than make any pretense of capturing the experiential "fullness" of a particular "real-life" circumstance, let us adopt the more humble approach of merely elucidating several essential factors that would seem to be involved in such a task, during at least some occasion(s) in early life. Of course, in mature life, the phenomenon that will be analyzed is executed with great ease because numerous ideational propensities or habits -- a large number of which are so well established that they are unconsciously

and reflexively implemented, for their functional virtue has been promoted over the years -- that were not available in early life are automatically invoked almost as soon as stimulus-object effects ingress into the human organism as sensation.

11) It has repeatedly been said that all symbols, in varying degrees, have a CONNOTATIVE and DENOTATIVE directly experienced aspects. The connotative aspect is defined as MEANING-AS-DIRECTLY-FELT-RELATEDNESS, containing a highly vague, but powerfully meaningful, concretely emotional dimension; and also an implicit symbolic periphery that contains the entire relevant network or web of ideational interrelationships which any (given) individual has incorporated into his verbal repertoire. Thus this vague symbolic RELATEDNESS, with its even more consciously remote emotional substratum, as they concomitantly appear with their clear and distinct conscious focal (i.e., denotative) point of organization, is the essence of human intelligence; for it is from this highly complex symbolic UNIT that CONSCIOUS REFLECTION is rendered possible. In reflection, NECESSARILY USING A CLEARLY CONSCIOUS UNITY OF PERCEPTUAL EXPERIENCE AS AN INITIAL FRAME OF REFERENCE, the myriad elements of relevant past wisdom, concomitantly implicit in the clearly conscious perceptual unity as MEANING-AS-DIRECTLY-FELT-RELATEDNESS, can be, metaphorically speaking, "traced-out" in successive temporal durations, and hence, be RESYNTHESIZED as NOVEL ideational configurations of symbolic meaning. It is in this "tracing-out" process that the full potentiality (or the creatively synthetic possibilities) of human cognition can be appreciated, for out of this, NOVEL MODES FOR SUGGESTING FUTURE IDEATIONAL SYNTHESIS EMERGE FROM PRIMORDIAL, UNCONSCIOUS ORGANIC CONCRESCENCE. This is to say that an individual human organism can intellectually and emotionally "prepare" himself for the EMERGENCE of ideational "suggestions" for novel modes for cognitive synthesis (recalling now, that ideational synthesis begins in unconscious or consciously inaccessible organic regions, defined as occurring in transcendent emergent concrescence). This creative phenomenon is not as mysterious as it may appear. The writer is maintaining that a CONSCIOUSLY REFLECTIVE human organism can increase his functional virtue through a moderate-to-great

deliberate effort to succeed at a given task of interest. This entails a determined effort to acutely familiarize one's self with as many relevant ramifications of an issue as possible, therefore increasing the amount of wisdom that can be brought to bear upon the stimulus-occasion at any point in time, if the information is gradually integrated into one's understanding through a careful reflective effort. Therefore it can easily be seen from this that the process is not merely determinable in terms of "blind, unconscious (or reflexive) mechanistic determinism", for a state of REFLECTIVE CONSCIOUSNESS -- an ontalogically unique mode of existence -- must necessarily be PRESUPPOSED A PRIORI in order to have the intellectual circumstances intelligible at all; hence an intrinsically different type of "mechanism" is involved. This is to say that we are NOT discussing a process which somehow transcends the realm of causal relationships amongst entities, but rather we must conceive the INTRINSIC NATURE of the ENTITIES and their RELATIONS differently. Since MEANING-AS-DIRECTLY-FELT-RELATEDNESS and its denotative concomitant ARE subjective psychological experience in its mature form, we are provided the necessary conditions for a consciously reflective frame of reference from which the "implications" of symbolic ideational states can be "traced out". Assuming that a high degree of functional virtue has enhanced the potency of this reflective process, then conscious intention has done its utmost in establishing fruitful ideational preconditions for ideational innovation. Beyond this, any suggested modes for novel ideational synthesis that may (or may not) emerge into consciousness will be synthesized in ORGANIC, hence in principle not consciously accessible, physio-chemical regions as high-ordered novel concrescence. As the writer presently understands the creative ideational process, it can be said that this highly valued mode of behavior does not transcend, in principle, causally determinable formulations, but rather, that the variables capable of possibly entering into such phenomenal occurrences are so numerous and, very often, only vaguely accessible to direct reflection (if they are symbolically specifiable at all, as in the case of extremely nebulous emotional feeling, which although vague, is FELT to be causally operative), that any attempt to specify the causal conditions giving rise to particular classes of behavior will encompass

only a small number of the possibly efficacious variables. However, on the other hand, if LARGE quantities of data can be collected (pertaining to these investigations), together with appropriate statistical procedures and electronic computing devices, the situation need not seem so experimentally dismal, by any means.

12) Thus when mind comes to bear upon an object of concern, all of its relevant emotional, vague symbolic, and clear symbolic resources are being conjured by the "demands" (ingressed effects) of the stimulus-occasion, in their full synthetic potentiality. The simplified, denotative symbolic component clearly (consciously) REPRESENTS the perceived object as its intelligible nature is synthesized from the resources of symbolic connotation; those realms which symbolically enhance the barren denotative clarity with a substance of meaningful feeling. Let us consider an example of a SINGLE component of this 'substance of meaningful feeling' which, when compounded with a multitude of other 'contributed' components (thus producing the FEELING of RELATEDNESS) would comprise the experiential "substance" of subjective psychological meaning.

13) Some of the pertinent implications of the simple act of perceiving a table and UNDERSTANDING it as such are the following (here we will deal primarily with linguistic symbols):

a) Linguistic symbols, logically separated from their subjective psychological meaning (i.e., roughly speaking, from their CONNOTATIVE), are, generally, particular spoken sounds, or particular ideational (silently thought) feelings (of course, there are exceptions as in the case of those with vocal disorders, and so on).

b) Learning symbols is contingent upon perceptions delivered through at least one mode of external bodily perception if they are to possess an intersubjective basis for communication (note the case of Helen Keller). Usually BARE DENOTATIVE symbols (apart from connotative symbolic meaning) can be perceived by another in observing movements of lips, feeling the vibrations in a throat, as well as hearing the particular linguistic sound. Although seemingly trivial, these "uncommon" ways of coming to understand

symbolic usage ARE data occurring often as preconscious perception and, therefore in a subtle way, comprise a portion of the domain termed MEANING-AS-DIRECTLY-FELT-RELATEDNESS.

c) In learning a symbol there are roughly three stages to the process:

1) First, the "raw" perception -- the stimulus-object EFFECT, as it is INDEPENDENTLY CONTRIBUTED to the consciousness of an organism from a stimulus-object residing in the individual's own organism or located in the natural world -- must be concretely experienced by the conscious individual. For example, the table must be seen and/or felt.

2) Next, the word 'table' as typically heard from another, and hence personally articulated -- including the internally felt vibrations of the sound, the felt muscular movements, hearing one's own voice, and so on -- all constitute (although perhaps not clearly appreciated) IMPORTANT substantive data for (learned) symbolic acquisition.

3) Finally there is the stage, expressed in the writings of Dewey, where we come to understand an unfamiliar experience (including, for our purposes, the perception, but primarily the SYMBOL):

> "We respond to its CONNECTIONS /with other facts that are already known/ and not simply to the immediate occurrence. Thus our attitude to it is much freer. We may approach it, so to speak, from any one of the angles provided by its connections. We can bring into play, as we deem wise, any one of the connections. Thus we get at a new event indirectly instead of immediately -- by invention, ingenuity, resourcefulness. An ideally perfect knowledge would represent such a network of interconnections that any past experience would offer a point of advantage from

which to get at the problem presented in a new experience."[97]

d) The previous three stages of symbolic acquisition as they are embodied in the example of characterizing the perception of a table could be PARTIALLY schematized as follows:

Stage #1

a) The basic perception as SEEN:

1) various patches of color in their fixed relationships

2) the forms which define the color patches

3) the observed texture of surfaces

4) the unified object of concern as it exists in relation to other contiguous objects

5) the unique shape of the table as it is perceived from the observer's perspective

6) etc.

b) The basic TACTILE perception:

1) the felt smooth surfaces

2) the felt straightness of its exterior edges

3) the felt flatness of its surfaces

4) the feeling of solidity

5) etc.

Stage #2

a) The CONCRETE EXPERIENCE of learning the symbol, 'table':

1) the uniquely heard articulation of the word 'table' spoken by another

---

[97] Dewey, Democracy and..., op. cit., p. 340.

2) the sound of hearing one's own voice as the word 'table' is spoken

3) the feeling of the muscular activity in one's own body in expressing the word 'table'

4) the experienced difficulty in correctly formulating the sound 'table'

5) the subtle emotional excitation that is felt when attempting new learnings; also the urge to learn

6) etc.

Stage #3

a) The establishment of COGNITIVE RELATIONS:

1) the profoundly subtle experience of realizing that previously learned information is synthetically coming to bear upon the present occasion

2) the felt power of being able to rationally UNDERSTAND a problem as such, and hence the ability to execute a solution

3) the feeling of MEANING-AS-DIRECTLY-FELT-RELATEDNESS

4) the felt power of imposing direction upon one's thought processes

5) the enjoyment experienced in synthesizing ideas into novel configurations

6) the experienced excitement of discovery

7) the feeling (and strange experience) of thinking, in that thoughts are FELT to occur in one's head

8) etc.

e) Thus the significance of presenting the above schematization is in explicating but a FEW of the explicit (clearly consciously perceived) and implicit CONSTITUATIVE FACTORS that are TYPICALLY CONTAINED WITHIN CONCRETE SUBJECTIVE PSYCHOLOGICAL EVENTS. These

qualities are, no doubt, consciously more clearly in evidence during less symbolically mature stages of life, for many basic cognitive functions are then being developed and refined, thus occurring in subjective psychological experience as relatively difficult learning tasks. However, immature minds rarely -- if at all -- reflectively take account of these phenomena, hence it is only later that they can be rendered subject matter for psychologists and epistemologists who can, through a determined reflective effort, recall these earlier experiences or recognize them in a more mature form, in their personal contemporary ideational states.

f) Moreover, and now we are approaching an issue of CRUCIAL importance, these often subtle aspects of subjective psychological experience -- primarily embodied in MEANING-AS-DIRECTLY-FELT-RELATEDNESS as the acquired (learned) wisdom of the past coming to bear upon present occasions, thus MEANINGFULLY ENHANCING an UNDERSTANDING of their nature -- have, in principle, physio-chemical correlates. This is simply to understand one of the many important implications of an 'empirical identity thesis' as it pertains to the mind-body problem. Specifically, it must be understood that considerable amounts of SENSATION (stimulus-object effects of which we have no conscious awareness) and PERCEPTION (that which can qualify as event-components, regardless of its degree of subtlety; hence, being reflectively accessible) have been (in the past, and will continue to be in the future) "stored" by appropriate physio-chemical mechanisms of the brain. This can be reduced to saying, that a great many phenomena /occurring as ENTITIES (with their many characteristic qualities) and RELATIONS AMONG ENTITIES/ issuing from both internal organismic environments, have been physio-chemically "stored" or recorded within the constitution of human organisms, as the EFFECTS of these STIMULUS-OBJECTS have ingressed as SENSATION and PERCEPTION. It is from this fact that CONCRETE EXPERIENCE can be said to possess an indeterminate profoundity. Futher, because of this fact, the writer maintains that no cognitive product can be cited which does not have its ultimate basis in concrete experience, whether it be the notions of 'causality',

'value', (mathematical) 'modes of relationship', and so on! But the important point to be understood here is that numerous perceived phenomena are physio-chemically recorded which are not raised to clear conscious apprehension via critical reflection. In fact, our entire discussion in this paper could be regarded as a modestly careful exposition of various relatively conspicuous dimensions of concrete experience. Whitehead's concept of 'misplaced concreteness' is based precisely upon this issue, in that he argues that many philosophical and scientific theoretical errors can be attributed to an insufficient consideration of the perceptual deliverances of concrete experience. For example, his criticism of Hume was, in part, that if we critically reflect upon our perceptual apprehension of the external world it can be easily understood that sense-perception does NOT come to us in clear and distinct atomic units; this is an error resulting from having accepted a high intellectual abstraction, viz., the notion of a clear and distinct atomic unit termed 'sense datum', as being a concrete fact of perception, thereby committing the error of 'misplaced concreteness'.[98, 99]

g) Therefore, in our former example of a simple act of perceiving a table, our cursory analysis of this phenomenon revealed a multitude of experiential and theoretical ramifications of this apparently simple human act (one, however, actually requiring a great deal of preparational learning; e.g., acquisition and functional usage of a language, etc.); an act expressed in its bare linguistic (and presently understood as an extraordinarily SIMPLIFIED) form as "I see the table". But in this simple statement (from a subjective psychological viewpoint), in addition to its DENOTATIVE form, there is an accompanying extensive CONNOTATIVE realm that we have defined as MEANING-AS-DIRECTLY-FELT-RELATEDNESS; containing such implicit notions as,

---

[98] Whitehead, Process and..., op. cit., pp. 198-217.

[99] J. W. Robson, "Whitehead's Answer to Hume," Alfred North Whitehead: Essays On His Philosophy, ed. George L. Kline (Englewood Cliffs, N.J.: Prentice-Hall, 1963), pp. 53-62.

'an individual identity', 'an experiential and theoretical (even if only naive) knowledge of natural world and innumerable personally learned notions about entities, properties, and their relations as they are collectively conceived as reality', as well as a multitude of additional relevant information. Anyone who reflects on this uniquely human cognitive phenomenon will begin to appreciate the profound significance and strangeness of ideation as an extraordinary ontalogical existent among other lower-ordered existants.

h) Before we terminate this particular argument there are several other issues with respect to the process of symbolically characterizing perceptions that we ought to consider. It has been said in various places, that symbolism -- particularly linguistic, and surely mathematical symbolization -- is a triumphant achievement of high-ordered intelligence, where the complex particularity of any single perceptual occasion can be greatly SIMPLIFIED by an appropriate word (universal) or sequence of words. This capacity enables human organisms to comprehend reality with great flexibility and precision; and moreover, create their own ideational entities, many of which are translatable into physical environmental modification. A large part of this ideationally creative process occurs in a way that is not IN PRINCIPLE DIRECTLY intersubjectively verifiable, namely, as SILENT meditation. Of course, almost everything that has been previously said in this discourse has had direct relevance to the process of thought, whether occurring in an intersubjectively determinate manner or in a silent, hence only personally accessible mode. Topics such as the stages of symbolic development or the denotative and connotative elements of symbolic thought deal with the process and logical form of subjective psychological experience. But in the argument presently being developed, emphasis has been placed upon focusing SPECIFICALLY on certain logical and "process" dimensions of thinking-behavior in order to more fully appreciate the vast complexity of concrete experience; and particularly, the great significance of MEANING-AS-DIRECTLY-FELT-RELATEDNESS for, in fact, contributing its necessary event-components to subjective psychological experience, thus

rendering it phenomenally possible. In the preceding step of this argument, we saw the vast complexity involved in even the simple act of symbolically characterizing a familiar object in experience. From this we saw that considerable data, ingressing into an organism through several sensory modes, are utilized by being synthetically converted into MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Thus, much of this data is preconsciously implicit as vague yet powerfully efficacious connotative meaning, as the wisdom of the past is brought CONSTRUCTIVELY to bear upon present occasions so as to enhance their subjective psychological meaning. All this is rendered consciously lucid only through the prolonged and intense usage of analytical reflection. Therefore, in keeping with this emphasis upon specificity of exposition in explicating the nature of ideational phenomena, let us now focus more precisely upon the EXPERIENTIAL characteristics of single, silently entertained thought components which, collectively considered, comprise complete UNITS of symbolic thought. We have heretofore defined these ideational entities as highly disciplined emotional feeling whose original intensely somatic, primordial nature had been sublimated as a result of sophisticated symbolic atomization, thus leaving only a vaguely comprehensible emotional element -- but one crucially important to the domain of MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Linguistic symbols, as it has been seen, REPRESENT given perceptual occurrences via spoken words. But now the question is raised, in silent thought no sounds are uttered, therefore what is the experiential nature of that which remains as "pure", particular thought components? We most assuredly do not experience these event-components in the same way that we entertain, throbbing bodily pains, for example. As the problem is posed, we are attempting to characterize the EXPERIENTIAL nature of a particular silently entertained (highly disciplined) thought-component within an ordered sequence of other symbols that collectively constitute a complete symbolic thought. In the complete thought-in-process, both the denotative and connotative aspects of symbolic experience can be, to a great extent, reflectively ascertained. But such is not the case in attempting to reflectively analyze the

"substantial" experiential nature of a particular thought-component-in-process, for due to its ephemeral temporal duration, only its denotative element is reflectively accessible (although we must LOGICALLY assume that its concomitant connotative components are present, for the denotative element, conceived by itself, is nevertheless meaningless). Therefore it seems tenable to say that at the specific time in which a particular thought-component occurs as silently executed ideational feeling, its intrinsic EXPERIENTIAL "in-process" nature possesses a symbolic FORM identical with its intersubjectively verifiable correlate (e.g., a word or musical note that is capable of being HEARD, as distinct from their SILENTLY THOUGHT correlative states), but, obviously, the intersubjectively verifiable perceptual element is absent from the silently thought symbol. This fact, considered in conjunction with the additional fact that MEANING-AS-DIRECTLY-FELT-RELATEDNESS is generally a phenomenon only directly experiencable in a SERIES of particular thought components (because of its longer temporal duration), leaves us -- with respect to the EXPERIENTIAL nature of a SINGLE transitory thought-component -- with a strange phenomenon indeed. We have as a remainder, it seems, the "purest" experiential manifestation of ideational feeling attainable, for it is devoid of any perceivable EMOTIONAL feeling. It is a paradigm of cognitive clarity and distinctness-at-a-moment. This organismic capacity for producing such clear and distinct modes of ideational feeling -- now conceived for expository reasons as LOGICALLY separate from connotative elements -- can be attributed to the extraordinarily sensitive physio-chemical perceptual RECORDING MECHANISMS which RECORD, with great FIDELITY, the perceptual deliverances from the internal and external modes of perception. This is to say, as the physio-chemical recordings can be conjured to consciousness as correlative subjective psychological event-components, that elements of past experience can be recalled in silent thought with remarkable FIDELITY. For example, most of us can SILENTLY THINK the various FORMS of pieces of music, of sounds of words, of former experiences at given places, etc. WITH OFTEN GREAT REPRODUCTIONAL EXACTITUDE. Of course these cognitive

reproductions are experientially not as vivid as their original counterparts, but nevertheless, they are necessary for the possibility of any type of ideational process, regardless of its mode of occurrence. In fact, it seems obvious that it is this capacity to precisely REPRODUCE certain former experiential elements in silent thought that importantly contributes to the essential structure symbolic thought. This is to say that if our organism was not capable of faithfully recording and then storing the perceptions of words, for example, as they are HEARD aloud, SEEN as lip movements, or FELT through the tactile sense, then thinking as we know it would be impossible! Thus within the theoretical framework we have been developing it can be said that the physio-chemical organic mechanisms for recording perceptual experience are so acutely sensitive to a stimulation that percepta initially occurring through external sensory modes (it seems as though either sight, hearing or the tactile sense are the necessary ones) -- a necessary condition for developing intersubjectively usable symbols -- are occasionally recorded in their entirety, as in the cases of certain pieces of music; but more frequently, CONCISE, SIMPLIFIED, symbolic REPRESENTATIONS of original circumstances are physio-chemically "stored" as organic propensities. Once this has been achieved, their original forms, as ideational reproductions (symbolically represented or situationally remembered), can be conjured to consciousness as manifestly expressed or silently entertained thought-components. For example, if an individual HEARS the word 'perspicacity' for the first time, he is able to silently THINK the word at a later time. However, if he could not HEAR the word, see the lip movements of another person pronouncing the word, or have the word communicated to him through the tactile sense, he could have no concept of the word (or symbol to represent it) for there would be no original physio-chemical recording of it. Now if an individual had been both blind and deaf, the only remaining mode for communicating with him would be through the tactile sense. We may assume that in this way the person could silently entertain a thought-component equivalent in MEANING to the symbol (which most of us HEAR as) 'perspicacity', but a symbol perceived as a

direct experiential derivative from the sense of touch. He would, in effect, silently THINK the TACTILE perception, 'perscapacity'.

All of us have observed children playing various games in which through voiced utterance they attempt to duplicate given natural would sounds: gunshots, hoofbeats, sounds of fisticuffs, etc. This is an effort to recreate a portion of formerly experienced reality. Brain mechanisms permit recall of such natural world sounds with remarkable fidelity. We could imagine a rude culture, perhaps having developed no system of sophisticated symbolism, effecting some minimal degree of communication merely through articulating natural world sounds. But even in this, the process of abstraction and universalization WOULD be achieved for even a primitive mode of thought requires some degree of intentional rearrangement of voiced utterances, in effect, establishing those utterances as universals. The illustration, apart from its inadequate elaboration, demonstrates a principle also manifested in highly sophisticated linguistic thought. It is simply that the particularity of original occasions fade quickly from our memory, but some elements of those occasions remain with us as universals that can easily be recalled in reflection. Instead of remaining within the realm of mimicking natural sounds, man is physically capable of creating his own symbolic systems, expressible as determinate sounds in the natural world yet incredibly transcendent of it.

i) This argument will be terminated by briefly drawing together some of the previously developed constructs in order to provide us with a somewhat clearer notion of mind. This last step is not intended to be an adequate statement on the nature of mind, by any means. Rather it will merely bring some of our formerly developed notions into a modestly clear proximity with one another in order to better prepare the way for future discussion, eventually becoming based upon constructs considerably more amenable to precise conceptualization.

Mind has been loosely defined as 'percepta (class A) concomitantly coming constructively to bear upon other percepta (class B)'. Also this definition had been qualified, to avoid tautology, by indicating that 'class A'

percepta are phenomenally distinct from 'class B' percepta. Now we may ask, based upon our preceding discussions, What is the nature intrinsic of these two classes of percepta? In effect, this is a request for a specification of the possible CLASSES of mental event-components necessarily understood to constitute subjective psychological experience, or MIND, IN ALL ITS POSSIBLE STATES! It has been generally stated throughout this discourse (and will continue to be developed in detail in future discussions) that there are components of our experience which are 'CONTRIBUTED' to our consciousness, hence not "created by" individual consciousness, defined as stimulus-object EFFECTS. These effects can be classified as 'class B' percepta in the following way:

1) external bodily sense data:

   a) colors
   b) sounds
   c) tastes
   d) odors
   e) tactile feels

2) internal organic bodily feelings.

The second class of percepta, i.e., 'class A' percepta, which concomitantly come to bear upon 'class B' percepta are the following:

1) ideational feeling:

   a) emotional feelings
   b) symbolized ideational feelings (usually linguistic).

This latter class ('class A' percepta) was defined to include the three basic levels of meaning intrinsic to linguistic symbols, viz., denotative meaning, and connotative meaning (MEANING-AS-DIRECTLY-FELT-RELATEDNESS, consisting of vaguely perceived symbols and emotional feeling).

Therefore, these two classes of percepta, as they are concomitantly synthetically united, are equivalent to the phenomenon of 'percepta concomitantly coming constructively to bear upon other percepta'. This is to say that as stimulus-object EFFECTS ingress into a human organism's consciousness, the EFFECTS

rendered PERSONALLY INTELLIGIBLE by being INTERPRETATIVELY subsumed to disciplined linguistic symbols. It is important to mention, at this point, that the above schematization of 'class A' and 'B' percepta is NOT sufficiently comprehensive to include the situation in which ideational feeling concomitantly comes to bear upon ITSELF! This consideration has been omitted to prevent premature confusion, for additional constructs are needed to understand the phenomenon.

A major point to be understood at this time is that a concept of mind is being developed whereby the CONSTITUTIVE CONTENTS of subjective psychological states, which we designated as external sensory percepta, bodily feeling percepta, and ideational feeling percepts, are such that, IN PRINCIPLE, an exhaustive understanding of the INEXTRICABLY UNIFIED nature of mind, in any of its possible cognitive states, can be ascertained through carefully analyzing the nature of the CONTENTS of various particular mental states. In this way, it can be shown that mind is a phenomenon which by the NATURE and FUNCTION of its PERCEPTUAL CONTENTS, can achieve (the contents, that is) ORGANIZATION and SELF DIRECTION: the CONTENTS can achieve SUBJECTIVE PSYCHOLOGICAL MEANING! This is obviously a complex and difficult statement to comprehend, hence, the remaining portion of the chapter will be devoted to elucidating its meaning.

Section 3

Throughout our entire discussion, we have repeatedly referred to our internal and external DIRECT perceptual deliverances as the ultimate ground for verifying the theoretical constructs presented heretofore. Also our criticisms of various theoretical viewpoints with respect to the mind-body problem and, in general, the whole problem of scientifically investigating human behavior have had their evidential basis in the concrete perceptions comprising our

conscious experience as sequentially appearing unities of percepta. The assumption underlying all this is that intelligent behavior arises from individuals having learned to understand, with progressively increased precision, the nature of entities and their relevant properties and relations (i.e., specifically with regard to INTRINSIC properties and relations among properties of particular entities, as well as relevant EXTRINSIC properties and relations among entities) as they are ALL DIRECTLY experienced as PERCEPTUAL UNITIES throughout spatio-temporal passage. This assumption is fundamental to the philosophy of Alfred North Whitehead and its far reaching implications are developed in great detail in most of his works. In this paper we can only superficially elaborate several conspicuous dimensions of this profound assumption. The concepts to be introduced in the remainder of this chapter are quite concordant with the views of Whitehead. However, the terminology to be developed by the writer is NOT strictly interchangeable with that of Whitehead's; an attempt to accomplish this would inflict unwarranted and serious damage upon his rigiously unified system of thought. On those occasions when quotations are extracted from Whitehead's writings, the reader may legitimately contemplate them from the point of view being developed in this paper.

The above assumption, that direct experience of the external natural world and our internal bodily phenomena consists of consciously apprehendable synthetic UNITS of

percepta, disclosing the inner and outer worlds in terms of entities, their propert ies, and the relations among these elements of experience, is one that clearly characterizes concrete awareness. Although stated as such, i.e., in a highly abstract manner, its meaning is not likely to be intuitively clear to the reader; therefore, appropriate attention will be given for elucidating the assumption. Let it suffice to say, in our introductory remarks, that the implications of this assumption permeate ALL areas of human endeavor, for human activity IS experience and experience fundamentally consists of unitary configurations of inextricably related percepta occurring in relatively determinate temporal sequences. From this, the conclusion can be drawn -- now specifically with reference to the purposes of our discussion -- that as our theoretical constructs progressively approximate the logical form manifested in our subjective psychological experience (keeping in mind now that perceptual deliverances, disclosing the nature of entities, their properties and the relations among these two factors, are to be regarded as the CONSTITUTIVE CONTENTS that are necessarily understood to occur within the logical form of subjective psychological experience), our theories will acquire greater validity and reliability in explanation, for they are conforming more closely to the nature of concrete experience. Stated more generally, it can be said that our knowledge of external natural phenomena as well as subjective psychological phenomena will become more valid and reliable as our theories achieve greater fidelity with

the indeterminately profound ramifications of concrete experience. In saying this, we are remaining strictly within the limits of mind defined as 'percepta concomitantly coming constructively to bear upon other percepta'. This is to say that if all possible percepta capable of constituting subjective psychological experience or mental events must occur as external bodily sense perception, internal bodily feeling, or ideational feeling -- or more precisely speaking, as a combination of these categories of perception --, then all opinion and knowledge of any kind can be subjected to ultimate factual verification by consulting concrete experience, for it is from this ontalogical mode of existence that every factual and theoretical assertion arises. Hence error can be regarded as the degree to which knowledge claims deviate from our DIRECT experience of reality. Here we must remember, of course, our unique definitions ascribed to the terms 'event' and 'event-component' (theoretical concepts which are in need of greater elaboration).

It will be our task, then, in postulating basic principles for a subjective psychology, to develop constructs that will best enable us to determine the LOGICAL FORM in which all subjective psychological experience must be conceived to occur. In doing this, we will be better able to understand the CAUSAL conditions that give rise to particular modes of human behavior. Further, a better understanding will be achieved for comprehending the methodological,

logical and evidential grounds upon which 'fact - theory' distinctions are predicated, for our theory of mind will enable us to distinguish those dimensions of knowledge claims referring to directly contributed natural world percepta and subjective psychological states (viz., facts), from those ideational elements referring to the INTERPRETATIVE contributions of constructive mental activity (viz., theory), over and above "bare" factual deliverance -- that is, of course, if so strict a dichotomy as 'fact - theory' can legitimately be made at all. Throughout this particular enquiry, which will include the remainder of the chapter, it is absolutely imperative that the notion of mind as 'percepta concomitantly coming constructively to bear upon other percepta' is kept clearly in view.

In our introductory remarks, the highly ambiguous term 'experience' has frequently been used with little attempt to clarify the meaning that it is to possess in order that a crucial distinction be established. Hence, we shall begin our analysis of the logical form of subjective psychological experience by initially establishing a concept of experience, or what has previously, though inadequately, been defined as an event. Concrete experience is that which CONSTITUTES every consciously aware moment in our lives. It IS that which fills out all subjective psychological awareness, regardless of its level of perspicacity. To better appreciate the profundity of this concept, we need only recall Whitehead's striking definition of experience.

> In order to discover some of the major categories under which we can classify the infinitely various components of experience, we must appeal to evidence relating to every variety of occasion. Nothing can be omitted, experience drunk and experience sober, experience sleeping and experience waking, experience drowsy and experience wide awake, experience self-conscious and experience self-forgetful, experience intellectual and experience physical, experience religious and experience skeptical, experience anxious and experience carefree, experience anticipatory and experience retrospective, experience happy and experience grieving, experience dominated by emotion and experience under self-restraint, experience in the light and experience in the dark, experience normal and experience abnormal.[100]

This quotation, considered within the framework of Whitehead's philosophical system, has a rather precise meaning, but since it is not our purpose to engage in an exposition of his views, we shall merely be content in pondering the definition of experience in light of that which has been previously maintained in this discourse.

Thus systematically speaking, experience includes all our awarenesses of the natural world as it is directly perceived through the external bodily senses, in addition to those directly perceived awarenesses of internal bodily states including bodily feeling, emotional feeling, and ideational feeling in their myriad modes of occurrence. It is important to note that our concrete experience is directly apprehended as UNIFIED. This unity, most fundamentally, has its basis in the fact that the external and internal ENVIRONMENTS are disclosed to us as unified

---

[100] Whitehead, Adventures of..., op. cit., p. 227.

configurations of percepta or stimulus-object effects. This is to say that the entities, their properties, and their relations with one another participate as ideational event-components in our consciousness in such a way that their appearance -- as entities, properties, and relations -- is NOT created by mind; rather, mind takes account of and hence records some of these phenomenal representations. There is, however, another dimension of the unity of experience which is CAUSED by mind's active, synthetic role in apprehending unified perceptual deliverances from the external natural and internal bodily environments. This phenomenon was to some modest degree discussed in our previous analysis of 'perceptual field'. It was seen that our understanding of any given stimulus-object effect was constrained, generally, to the meaning yielded as a result of the number of organic propensities that could be conjured to a given stimulus-occasion, in addition to the extent to which the propensities were interrelated, thereby yielding even qualitatively greater meaning. Stated differently, the unity of individual experience at concrete levels is also (over and above the intrinsic unity of inner and outer environments, as they logically and empirically exist distinct from other minds), in varying degrees, determined by the extent to which the wisdom of the past comes constructively to bear on present occasions so as to enhance the MEANING of those occasions. We have seen that in this latter way of conceptualizing unity, much of the primordial

complexity of intuitively (whether vaguely or clearly) apprehended experience eludes clear conscious understanding largely as a result of the human organism's ability to (intellectually) SIMPLIFY the indeterminate complexity of immediate experience, hence achieving conscious symbolic clarity and precision in comprehending reality. The importance of this point cannot be over-stated if we are to truly appreciate the magnificence and ontalogical peculiarity of MEANING-AS-DIRECTLY-FELT-RELATEDNESS. The extraordinary synthetic and/or interpretative power of mind is difficult to conceptualize unless one achieves this understanding through using the extraordinary complexity of concrete experience as a basis for analysis. In this way it can be readily seen that ideational feeling represents a striking instance of ontalogical phenomenal transcendence beyond the bare givenness of natural world representations and those occurring as bodily and emotional feeling. This unique emergence is nothing more nor less than the commensurate illumination of subjective psychological understanding as it steadily (intellectually) transcends the bare, intrinsically subjective psychologically MEANINGLESS deliverances of stimulus-object EFFECTS conceived IN-THEMSELVES.

On most occasions of which we are consciously aware, whether through mere conscious apprehension of percepta or in penetrating critical reflection, both modes of experiential unification are in evidence. The first level could nearly be exclusively experientially approximated in those rare moments when one's consciousness is filled

predominately with sheer immediately presented, unpondered configurations of percepta. In these fleeting moments, reflective thought is almost totally absent. In fact, this endeavor to perceive bare percepta, and consequently achieve a connotative apprehension of the subtly enduring complexity of concrete experience, requires a deliberate intellectual effort. In this, we are attempting to achieve a state of affairs in which intellectual interpretation is at a minimal, thus entertaining a FEELING OF COMPLEX RELATEDNESS AMONGST MENTAL EVENT-COMPONENTS. It would seem that artists have developed this facility for directly apprehending concreteness with unusual exactitude. But the first level of unified conscious apprehension of internal or external concrete states is rarely attained, for in the vast majority of instances, this primordially unified deliverance is concomitantly superceded in intellectual clarity by simplified, precise denotative understanding. Here we have the typical circumstance where during a given temporal duration, one is concentration upon reading the content of a book, for example, while simultaneously, the low murmur of voices can be heard, accompanied by the quiet hum of a ventilating system, the solidity of the table and chair can be felt, the deliberate effort to focus attention on a page can be felt, the intellectual effort to comprehend printed symbolic meaning can be experienced, and so on. Thus over and above the particular clearly conscious act of comprehending the printed content of a book, there are

numerous OTHER CONCOMITANTLY OCCURRING perceptions that are often, at best, only vaguely conscious. If this vast complex of perceptions can be conceived in their collective unity, then the full richness and multidimensionality of concrete experience will become more apparent. Stated differently, our concept of 'experience' encompasses two levels of perceptual unification, initially, primordially occurring as those continuous infusions of (CONTRIBUTED) percepta which are (both vaguely and clearly) consciously recognized as entities, properties, and relations; and secondly, as the higher-ordered concomitant source of perceptual unification, i.e., simplified, clearly determinate INTERPRETATIVE COGNITION. It is these experientially integrated perceptual units, when occurring in their particular ontalogical sequences in the organisms of all individual (conscious) human beings, that constitute the conscious life or personality of men. Experience, then, has a far more inclusive character than that which any of us can exhaustively explicate at a given time. For beyond the clear understanding of our thoughts at a particular time (viz., that aspect of experience defined as the second level of unification), there are the more primitive perceptual deliverances whose recognition in most cases is sacrificed in order to establish clear, simplified, linguistically meaningful organization, whether actualized as voiced expression or as silent thought. Here the point to be made is that concrete experience is far too subtle and intricate

to be given complete symbolic explication, for we live in the ever-emerging, hence transitory, present. The future is upon us before we are done with its immediately preceding relevant occasions. So it is with human experience; our clear conscious thoughts capture only the most conspicuous glitterings of fleeting present occasions. Thus all linguistic universals are as slender threads of continuity, regressing into a rich experiential history of learned wisdom that would be essentially lost from clear comprehension if it were not for these powerfully meaningful remnants of the past. Therefore, each UNIT of individual experience must be regarded as ultimate fact, for it truly embodies 'that which is the case'. But since man's linguistic capacities enable him to only partially characterize those portions of immediate experience contemplated as personally IMPORTANT, that are hence subjected to simplification, it is not difficult to understand that any notion of "pure" fact is necessarily relegated to the status of an IDEAL, for so many elements of experience are denied precise conceptualization, and thereby, are lost forever. Moreover, the very act of linguistically characterizing a PORTION of experience entails ABSTRACTING this important element from its original experiential context. This, of course, becomes a source for much human error. Even the most acute mentalities are constrained to this condition. In stating the circumstances this way, it can be easily seen that man's intellectual powers are greatly overshadowed by the profound structure of reality. We must

come to this conclusion if our concept of experience is to be taken seriously, for it follows that 'experience' logically demands the inclusion of EVERY PERCEPTUAL element of natural and bodily stimulus-object effects, regardless of their subtly and vaguely conscious status, collectively actualized as a temporal unit of subjective psychological experience. We may conclude by once again stressing the fact that experience, in its full comprehensiveness and deep compelling unity, is far broader than our intellectual capacity to symbolically characterize this human occurrence. Perhaps it is only through intuition, exercised by minds well disciplined in understanding the nature of what has been termed in this discourse as MEANING-AS-DIRECTLY-FELT-RELATEDNESS, that the indefinite pervasiveness of unfathomable complexity can be appreciated.

Now that the profoundly complex quality of human experience has been briefly contemplated, it is necessary to develop theoretical constructs suitable for providing us with the means through which this uniquely human phenomenon can be systematically comprehended. The nature of these constructs has been frequently suggested throughout former discussions; however, it is now appropriate for our purposes to attempt to define the concepts with some precision.

The concept of an 'EVENT' could, in a sense, be regarded as identical to our definition of 'experience', but the term 'experience' seems to implicitly suggest an overly subjectivistic view of the world. As it has been

said, the definition of 'event' demands a twofold distinction, namely, 'percepta concomitantly coming constructively to bear upon other percepta'. However, stated in this abstract manner, it is easy for one to forget the deep, intimate experiential quality of the percepta cited as definitionally polarized. With this in mind, let us proceed to develop a rather specific definition of 'event', emphatically incorporating the fact that powerfully informative experiential factors are suggested by the theoretical construct; one developed to enhance and hence facilitate an understanding of our experience. In defining an event we shall attempt to designate LIMITS that will denote the domain of each possible particular event perceived by the mind of any given human being. By doing this, it becomes possible to delineate determinate individual atomic units of experience. Since mathematics is the exact science of establishing precise, universally valid RELATIONS among ENTITIES, SIMULTANEOUSLY OCCURRING DURING INSTANTANEOUS MOMENTS OF TIME, it shall be possible (as a result of our ability to rigorously denote the particular ENTITIES of subjective psychological experience) to utilize mathematical and statistical techniques for ascertaining relations among EXPERIENTIAL ENTITIES to be carefully defined as events. This theoretical approach for systematically comprehending phenomena was carefully explored and developed by Whitehead. In these enquiries his principal interest was in comprehending NATURAL

phenomena,[101, 102, 103] but a similar approach (with modifications) seems highly feasible for studying human behavior, for the theoretical viewpoint resulting from this mode of understanding is capable of encompassing a great number of subtle and transitory subjectively experienced phenomena. Its chief advantage is precisely what is lacking in current psychological theories, viz., it can utilize, in principle, every possible component of subjective psychological experience as factual evidence for evaluating given subjective psychological hypotheses, and this end can be accomplished within a definitionally rigorous framework; one not incompatible with mathematical, statistical, or geometrical modes of formalization. The ultimate criterion to which we shall attempt to tenaciously adhere is that our constructs must remain concordant with the way that external and internal bodily percepta constitutively participate in our personal consciousness as ever-emerging, unique configurations of percepta, each in their unified totality being a directly experienced particular mental event.

Mind is an ENTITY, and here the term entity is used in

---

[101] Alfred North Whitehead, An Enquiry Concerning the Principles of Natural Knowledge (Cambridge: at the University Press, 1919).

[102] Alfred North Whitehead, Concept of Nature (Cambridge: at the University Press, 1920).

[103] Alfred North Whitehead, The Principle of Relativity (Cambridge: at the University Press, 1922).

the general sense that it is a "something" (our arguments in "Chapter I" have demonstrated this necessity), capable of being distinguished as intrinsically distinct in kind from other entities comprising the world (e.g., colors, sounds, rocks, other men as they are perceived as natural objects, etc.); hence mind gains ontalogical particularity. More specifically, individual minds are entities that stand in unique empirical relationships with their relevant coexistent natural world throughout given temporal durations; a process which is cognitively unidirectional. Thus the term 'mind' suggests sophisticated concrescent processes yielding particular mental events, sequentially emerging within individual human organisms and manifesting an intrinsically intelligible meaning that persists throughout long series of these events (e.g., a complete life). Thus particular events are a nexus of percepta or stimulus-object effects constituting the only valid and reliable factual representation of reality that is available to man. These percepta, in their unique, transitory patterns of deliverance, ARE the way that the relevant natural world ingressed into the constitution of individuals, hence achieving an actualization of conscious experience within individual persons. As we have seen, the complexity of this fact of intersection or mutual environmental synthesis is far broader than an individual mind's capacity to symbolically characterize the extraordinary phenomenal occasions defined as complete mental events. Determining the definitive limits of an event is wholly contingent upon

an individual mind at a given time. TIME ELAPSES during acts of perceptual apprehension and thinking, regardless of their ephemerality. This is an unavoidable fact of concrete experience. Thus the time transpiring while thinking a complete thought, designates the temporal limits of an event. Further, it is from the phenomenon of 'completeness' that the notion of an ATOMIC event is suggested. Our thoughts in the vast majority of instances OCCUR AS COMPLETE IDEATIONAL UNITS. This is merely to say that, 'I see the red table', not 'I see the.'; 'That racing car accelerates more rapidly than its competitors', not 'Accelerates more.'. Here we have a fundamental criterion for designating particular events. The ideational phenomena concomitantly actualized throughout these temporal durations ARE unique entities, coexisting with innumerable other possible entities which simultaneously constitute reality throughout those durations; therefore, their ontalogical status must be recognized as legitimate. This conclusion is particularly important for a subjective psychology whose principal thesis is that these ideational entities are in fact causally efficacious. The problem of defining the ontalogical particularity of events will be further developed when we embark upon our analysis of space and time.

To understand the full importance of the view that consciousness is the actualized synthetic product of the WAY in which the internal and external environments ingress

into individual organisms, we must recall our former discussion on the unification of experience as it is perceived on the first level of representation. This is to emphasize the fact that our experiential events possess a highly sophisticated unity (LOGICALLY) PRIOR to the nearly automatic or reflexive functioning of mature intelligence at the second level of unification (i.e., in effecting cognitive SIMPLIFICATION). It is imperative to understand that cognitive modes of thought have their primordial basis in properties of and relations among entities as their effects are experienced at the first level of unification. Metaphorically speaking, intelligent behavior arises from and hence acquires its ultimate discipline through primitive perceptual representation. This is to say, for example, that for even the most immature intelligence the world is not experienced as sheer, unfathomable perceptual flux for very long because, as we have seen, physio-chemical storing mechanisms are operating considerably prior to the development of reflective consciousness. Wisdom is being accumulated without the organisms' conscious realization at early stages of growth. Amid the apparent kaleidoscopic (perceptual) flux there is the over-riding, but vague, recognition of permanence within perceptual processes, and soon thereafter, that the permanence can be even more distinctly understood as entities manifesting certain characteristic properties. In fact, the essence of intelligent behavior is the ability to make these phenomenal distinctions and

then incorporate the information into one's backlogue of similarly acquired wisdom in order to increase one's behavioral efficacy. This is the power of establishing IDEATIONAL RELATIONS among entities and their properties as they are in process. Relatedness is intrinsic to concrete experience at the first level of unification, and the second level, is a way of extrapolating beyond the implications of the first level through the constructive, creative usage of symbolic reflective consciousness. We can know nothing beyond the appearance or effects of entities and relations as they ingress into consciousness from internally and externally located regions of reality. Yet in syaing this, there is the possibility for intellectually penetrating the mysteries of the microcosm and macrocosm, for as Whitehead has often said, the relations implicit in various "given" portions of our natural experience, for example, hold true for all entities throughout the universe even though the intrinsic nature of many of these entities can be only indirectly ascertained by using theoretical constructs. This principle, when comprehended within a rigorous spatio-temporal framework, is a cornerstone for the theory of relativity.

As we have seen, another extraordinary characteristic of mental events is that relevant past wisdom enters into every emergent, ontalogically unique present occasion in such a way as to greatly increase the subjective psychologically meaningful comprehension of contemporary occasions.

Not only the bare (intrinsically meaningless) percepta of the printed words of a poem are seen, for example, but over and above this, a more powerful qualifying class of cognitive percepta infuse the appearance of printed words with a deep meaning that reaches far into an individual's past experience, often stirring emotion and intellect at their primordial bases. From this, profound moments of indefinitely complex units of understanding fill out consciousness and provoke the limits of analytical reflection. Anyone who ponders the phenomenon of the past constructively entering into the fleeting present occasion, whereafter both classes of percepta as synthetically united prepare the way for future novel emergence, cannot avoid recognizing the incredibility of this possibility. Mental events in their inextricably unified perceptual atomicity during the present moment, in effect, portray their relevant universe in a rude type of symbolic suspension while the "FACTS" of the process, e.g., generally defined as its relative permanence amid incessant change, and its possibility for apprehension from a single unique mental perspective, are ascertained by the mentalities rendering this extraordinary action possible. What mechanistic scheme may we contrive to explain this unfathomable fact of experience? One such theory was proposed in "Chapter Two", developed from the notion of concrescence as a physio-chemical synthetic coalescence of discreet, yet interdependent, systems of organic mechanisms each of which was necessarily understood to be a self-contained unit comprised of components whose functional

presence is required for the organism to behave as a complete unit. In this view, our concept of organic bodily mechanisms leads us into the microcosm. For example, that discreet organs such as the heart are comprised of vastly complex systems of cells; the cells in turn each have their own necessary components; but the components can be still subdivided further; and so on, demonstrates this pattern of regression. On the other hand, we may proceed up the scale of concrescence where organic mechanisms function as societies, and discreet societies interpenetrate with other relevant societies, and so on, such that holism becomes increasingly evident at progressively higher stages of organic concrescence. The optimum levels of concrescence culminate in consciousness and reflective consciousness where the ORGANIC, empirically ascertainable equivalents (and again we see a logical consequence of the Identity Theory developed in "Chapter One") are those levels of concrescence providing the preconditions for cognitive emergence. It was formerly said that this model seemed compatible with a scientific emergentism in that, for example, while mental states are not predictable a priori from their physio-chemical correlates, they can, however, be rendered (in principle) scientifically determinate aposteriori. Feigl's Identity Theory affirms a similar view in that mental events are not analytically derivable from their physio-chemical correlates.

In a different type of analysis -- i.e., of subjective psychological perceptual content -- the phenomenon of past

wisdom entering into the present occasion was explained in terms of connotative and denotative symbolic meaning. This mode of explanation has its analogical grounds in mechanistic notions such as organic 'storing' mechanisms which when activated in concrescent processes occur as organic propensities! Thus it can be seen that our mechanistic model is compatible with both an objective and subjective psychological view of man, while our subjective psychological model (dealing with such notions as connotative and denotative symbolic meaning, for example) can (moreover) yield information about the subjective psychological aspect of human behavior; a dimension of human behavior that must be methodologically purged from a strict behaviorism, for example. A more basic fact in all this is, however, that BOTH psychological viewpoints must LOGICALLY PRESUPPOSE what has been defined as subjective psychological experience, and more specifically what we are presently defining as atomic mental events delivered, thereby perceived directly as concrete experience.

Our concept of mental events demonstrates that conscious life is primitively revealed as apparent permanence concomitantly contrasted with a backdrop of process. The conscious present is, moreover, invariably tinged by the color of past wisdom, as contemporary moments incessantly slip into the future. The characterizational power of symbolism -- particularly linguistic symbolism -- obscures the transitory quality of experience arising as natural and

bodily perceptual components, and hence, favors the selective recognition of enduring stability. This illusion is both facilitative and necessary for a full enjoyable life, but it is also a frequent source of important error as man's scientific enquiries proceed in understanding the lawful dimensions of reality. As we have seen, our immediate awareness of experiential events greatly exceeds our ability to symbolically characterize the full implication of experiential occasions. The ever-emerging present constantly fades from our cognitive grasp, thereby leaving us only the opportunity to symbolically SIMPLIFY those elements of experience that impress us with their IMPORTANCE; they resultantly become candidates for immediate contemplation, and often, even for future recollection. The capacity to symbolically simplify our experience is, without question, a necessity for attaining conscious precision in understanding; this capacity is certainly sufficient reimbursement for the commensurate loss of experiential concreteness. But nevertheless, there is much variability in our "precise" characterization of things (although it is minimal, to be sure, in disciplines such as mathematics, for example). For example, no two individuals agree EXACTLY on 'the verbal definition of happiness', 'a phenomenon that they have both directly witnessed concomitantly', etc. This is to say, discrepancy in understanding given matters results from not only differences in spatial or temporal perspectives of apprehension, but more importantly, from the great

incongruence in the subjective psychological domains defined as connotative symbolic meaning or MEANING-AS-DIRECTLY-FELT-RELATEDNESS. This significant discrepancy can occur even though identical components of denotative symbolic meaning may be articulated. Two people observing a flower, and giving identical verbal testimonies to the fact, will have different conceptions of the flower if, let us say, one individual is a poet and the other a botanist. This illustration effectively portrays our previous distinction between "public" and "private" events made in "Chapter One". It will be recalled, the writer maintained that ALL events were private or mental insofar as an individual human mind is necessarily presupposed a priori to "stand over against" perceptions of given phenomena, otherwise the phenomena could not, in principle, enter into the domain of human experience. From this the distinction followed that "public events" were actually mental events that contained EVENT-COMPONENTS whose corresponding stimulus-object was LOCATED in the natural world; hence they are capable of DIRECT INTERSUBJECTIVE verification by OTHER minds, as well. Similarly, 'subjective states' (which is a less misleading notion that 'private events') were mental events containing EVENT-COMPONENTS whose corresponding (scientifically inferred) stimulus-object was LOCATED in the body of the individual experiencing the mental event; hence, the event-component is capable of DIRECT verification by ONLY that individual, and occasionally capable of INDIRECT detection by other individuals IF there are MANIFEST behavioral

indications of the subjective state. Thus it is clear that only WE AS INDIVIDUALS can, in principle, experience what we do in fact experience, REGARDLESS of the LOCATION of the stimulus-objects under consideration. Therefore the important conclusion follows that the term 'OBJECTIVITY', over and above the necessity that ultimate procedures and evidence be directly intersubjectively confirmable, refers to the degree to which individuals can achieve CONCORDANCE among their DENOTATIVE AND (more important) CONNOTATIVE domains of symbolic understanding, given that percipient's spatio-temporal and environmental circumstances are sufficiently alike to yield such a similarity in understanding. This is the only concept of 'objectivity' that we can have if we are to take into account --- as we must --- the ontalogical status of mind as a component of reality. Thus we are lead to the abstract concept of mind as 'percepta concomitantly coming constructively to bear upon other percepta', presupposing all that has been said heretofore and that yet remaining in future chapters, as implicit within this bare definition. Again, as it has been stated in various places throughout this paper, the most objectively valid and reliable knowledge is that stated in symbols possessing maximally determinate denotative and connotative domains. Stated more specifically, the type of knowledge has an experiential basis capable of precise symbolic specification such that the nature of its entities and particularly some of their RELATIONS can be rigorously conceived in formal terms. This statement appears to be

verified by the exactitude achieved in mathematics and physics, for example. The former science is in great part a product of ideational feeling as it derives its axioms, postulates, etc. ultimately from the perceived relations among objects in nature. Physics relies more heavily upon symbolically conceptualizing the nature of its natural and hypothetical entities, but the principal rigor is nevertheless derived from the ability to establish mathematical and statistical RELATIONS amongst its entities. These are methodological disciplines where individuals, viewing the relevant universe from their private, unique perspectives, can come to achieve relatively great concordance among their symbolic characterizations of those portions of reality (event-components) which they choose to scientifically scrutinize. Thus all events, insofar as humans can know them, are necessarily private for phenomena are directly perceived by individual minds. But, as we shall see with increased specificity in ensuing discussions, this view by no means compels us to a solipsism. Let us merely say at this point, that since all our knowledge about anything must, in principle, be grounded in mental events, whose components are delivered via the internal and external senses as determinate experiential UNITIES, any object of knowledge must necessarily enter into our subjective psychological experience as an event-component, directly disclosing the object as an entity with properties and knowable relations, or revealing at least some manifestation of the object -- which in this case relegates the object to

a hypothetical status (for example, an atom) -- from which mathematical or statistical formulations may comprehend its relations with other entities (and/or theoretical entities). In this latter instance, scientists, in effect, take the data that are available for any given object of concern, develop a theoretical model to fit the data, establish formal statements of relations among relevant factors, and finally, design "key" experiments (or proofs) to test the validity and reliability of the model for explaining the phenomenal occurrence. In this way, deductive explanations can be given, proceeding from axioms, postulates, etc., and finally demonstrating the lawful relations hypothesized to underlie phenomena through carefully constructed "key" experiments. This process is fundamental to rigorous scientific explanation and hence prediction; achievements originally proceeding from and ultimately verified in subjective psychological events.

Although the topic shall later be covered in greater depth, we have seen that mental events, as atomic experiential unities capable of being ascribed particularity in spatio-temporal coordinates, can be indefinitely subdivided into event-components. These components may occur as entities, properties of entities, or relations among properties and entities. Further, entities, properties, and relations may represent the natural, bodily feeling, or ideational domains as they are directly perceived through the inner and outer senses. The concrete perception (by

mature minds) of these myriad event-components in their inextricable unity throughout given temporal durations (complete events) is a primordial and complex fact of reality for man. It is through this mode of understanding that all possible knowledge of man and nature must issue. The spatio-temporal components of mental events ARE the way in which we experience (through direct acquaintance) the EFFECTS of stimulus-objects that participate in our being; at least those of which we can become aware. Perhaps the most extraordinary fact is that these event-components, collectively comprehended as events, and necessarily conceived as dipolar classes of percepta, can synthetically interact in such a way that one class can impose discipline and hence direction on the other class. Out of this (although the process is very complex), subjective psychological experience gains its meaning and intellectual potency; man acquires a self and the possibility for a creatively human life. Finally, to conclude our introductory analysis of the concept of mental event, let us generally say that these events can occur as experience in four distinct ways:

1) as intuitive (immediately experienced) subjective psychological events, where the stimulus-objects are organismically LOCATED in unconscious physio-chemical states, or are previously learned ideational feelings. Here, because of the IMMEDIACY of this type of phenomenon, conscious awareness is restricted primarily to CONNOTATIVE symbolic understanding while the denotative element is minimal

2) as intuitive subjective psychological events, where the stimulus-objects are LOCATED in the

natural world, ingressing into consciousness as external bodily sense perception. Here, because of the IMMEDIACY of this type of phenomenon, conscious awareness is restricted primarily to CONNOTATIVE symbolic understanding while the denotative element is minimal

3) as subjective psychological events, where the stimulus-objects are organismically LOCATED unconscious physio-chemical states, or are previously learned ideational feelings. Here, simplification has occurred, thus symbolically characterizing this type of phenomenon through both connotative and denotative symbolic means

4) as subjective psychological experience, where stimulus-objects are LOCATED in the natural world, ingressing into consciousness as external bodily sense perception. Here, simplification has occurred, thus symbolically characterizing this type of phenomenon through both connotative and denotative symbolic means.

More will be said about these types of mental events as we proceed in developing additional constructs to rigorously elucidate their logical form. Also, it will be recalled, in our former discussion on the two levels from which mental events acquire their intrinsic unification, that they were conceptualized in the following way:

Level 1: the unity of inner and outer environments disclosed as:

a) external bodily sense perception contributed from the natural world as entities, properties and relations

b) internal bodily feeling contributed by the bodily structure as entities, properties, and relations

Level 2: the unity actively and constructively promoted by ideational feeling, ultimately deriving its form from sources "a" and "b", above.

In our analysis of mind, it is becoming unquestionably

clear that the most indubitable starting point for this enquiry is that of concrete experience because, after all, concrete experience -- in our comprehensive definition of this term -- is the intrinsic "medium" for conscious life. We cannot "somehow" transcend or otherwise escape concrete experience, except in those unconscious states of sleep, death, and so on. But it must be cautioned that the concrete facts of internal and external perception can be importantly distorted through careless cognitive INTERPRETATION that subtly and often in an unnoticed way unwarrantedly elaborates our perception of "stubborn facts". Well known instances of these types of erroneous determinations are, for example, the notions of 'sense data' as intervening elements of clearly evident, atomic sensation between percipient and object; the notion of substance as a substratum underlying and hence providing the basis of unity for perceived qualities of objects, etc. Here we have examples of very high abstractions unwittingly accepted as concrete facts of experience, the results of which promoted many perplexities in philosophy. One never knows when one's own cognitive (presuppositional) habituations are so well established that similarly erroneous misconceptions are unintentionally perpetuated. In any case, it is only through prolonged, careful philosophical analysis that these problematic conceptions can be exposed. The FACT, however, at the bottom of difficult errors of this sort, is that ideational feeling introduced an INTERPRETATIVE element of cognition over and above that which is warranted by the

contributed perceptual organizations delivered through the MODES OF EXTERNAL BODILY PERCEPTION, BODILY FEELING, AND IDEATIONAL FEELING. We have said repeatedly, that stimulus-object effects occur through these perceptual modes, symbolically characterized as ENTITIES, RELATIONS AMONG ENTITIES, AND THE PROPERTIES OF ENTITIES. Therefore, it is from analyzing the percepta delivered via the three distinct modes of perception, as these percepta embody an intrinsic FORM independent from mind, that we can come to understand the subjective psychological form in concrete experience, and hence, ideational processes or mind. The task for us, then, is to achieve maximum FIDELITY between our theoretical constructs and experiential deliverances, for their degree of discordance (resulting from unwarranted cognitive INTERPRETATION) will yield a commensurate amount of erroneous formulation. This is not to say, however, that all we are required to do is to represent "pure" perceptual fact purged of interpretation, for as we recall, immediate experience is too broad for complete exposition by intellect. Thus mind simplifies certain important aspects of concrete, transitory experience through symbolic representations, and in so doing necessarily subsumes experience to INTERPRETATION, which, in effect, lead us to the conclusion that man is incapable of articulating "pure" factual statements, for this act would necessitate symbolically representing the complete original factual moment of experience. Consequently, man contents himself with the more humble endeavor of "factually" characterizing

particular event-components that tend to reoccur throughout moments of human experience in a comparatively uniform way; but it must be understood, as we shall see, that even the apparently "bare" factual statement 'the grass is green' is permeated with cognitive presuppositions and thereby interpretations!

Again to briefly recapitulate our developing argument, it has been said that an ultimate, indubitable (and obvious) fact of human existence is that mind IS the consciously intelligible perceptual elements of individual concrete experience occurring in their inextricable unity and profound complexity. Also, it is from the contributed independent structure of concrete experience that mind essentially acquires its subjective psychological mode of understanding -- ultimately derivable from the FORM of contributive perceptual deliverances -- eventually enabling human organisms to MEANINGFULLY SYMBOLICALLY REPRESENT THEIR PERCEPTUAL EXPERIENCE, and at the highest levels of human understanding, to PROGRESSIVELY DEVELOP AN EFFICACIOUS SYSTEM OF KNOWLEDGE. This is to say that a class of natural organisms have achieved the symbolic capacity for intelligently reflective self-consciousness; a phenomenon whose meaning we are presently attempting to understand. To better understand the notion of subjective psychological experience, the theoretical concept 'event' was formulated for it emphasizes both the (temporal) durational longevity of particular units of cognition, and also, the far-reaching complexity of these experiential occasions. Thus 'event'

and similarly the term 'experience' refer to the ontalogically concrete mode of successive occurrence entitled PROCESS. From the perspective of sheer process, there is no possibility for delaying the temporal advance of phenomenal emergence in order that certain dimensions of reality may be subjected to reflective examination; rather, mind must acquiesce to the relative permanence of its objects. The terms, 'event' and 'experience', then, are also defined to comprehend the phenomenon of process, for implicit is the fact that reality is far broader than man's capacity to symbolically characterize even its momentary nature. Also the term 'event', regarded as a particular spatio-temporal atomic epoch in the complete life of an individual human mind, is seen to include all ramifications of the concept 'percepta concomitantly coming constructively to bear upon other percepta'. And finally, as it has been frequently implied, the concept of 'event' can be further analyzed into that of 'event-components', each of which is the EFFECT of corresponding stimulus-objects. By means of symbolization, many of these event-components or stimulus-object effects can conversely be transformed -- because of the causally efficacious symbolic nature of mind -- into stimulus-objects; hence providing a necessary condition for intelligent, innovative thinking. With these thoughts in view, let us now proceed to more carefully examine the logical grounds upon which the RELATION of mind to the natural world and internal bodily states is based.

In "Chapter One", for argumentative reasons, the concept 'event' was loosely defined as having two aspects that were necessary in order for subjective psychological experience to occur at all; namely, percepta, originating from external and internal environments, and a mind or conscious awareness that "takes account of" these percepta. This was later refined to the notion of 'percepta concomitantly coming constructively to bear upon other percepta'. Although there are numerous ramifications to this latter definition, some of the more important ones are the following:

1) There is the implication of at least two distinct classes (e.g., issuing from distinct perceptual modes as external bodily perception, internal bodily feeling and ideational feeling) of percepta being concomitantly actualized in a synthetic union; a union which emerges as subjective psychological states (or events).

2) One class of percepta in this (at least) dipolar union is a class that must be regarded as uniquely 'CONTRIBUTED' by the:

   a) natural world as entities, properties, and relations (i.e., as stimulus-object effects)

   b) the bodily organism as:

      1) bodily feeling as entities, properties, and relations

      2) ideational feeling as symbolic entities, properties, and relations. But these ideational percepta must be contemplated as PREVIOUSLY formulated ideas, thereby ingressing into mind as the 'CONTRIBUTED' component (or stimulus-object EFFECT of previously synthesized ideas that have acquired the status of stimulus-objects) of the (at least) dipolar ideational synthesis. Although this phenomenon is

easily executed in "pure" REFLECTIVE thinking (in that there is no immediately 'contributed' natural or bodily feeling component), an exposition of the LOGICAL grounds of this ideational occurrence is a very difficult task; particularly at present, for we have not yet introduced the appropriate constructs needed to effect an adequate explanation. Therefore a rigorous analysis of the phenomenon must be postponed to a later occasion.

3) The other class of percepta in the (at least) dipolar union is what has been termed, SYMBOLIC percepta; a special class termed disciplined ideational feeling. Symbolic percepta are comprised of the following components:

   a) denotative meaning

   b) connotative meaning or MEANING-AS-DIRECTLY-FELT-RELATEDNESS, having two components:

      1) vague symbolic meaning

      2) emotional feeling.

The above outline presents a rough description of the LOGICAL FORM of subjective psychological experience at ANY possible moment. It indicates the LOGICAL FORM OF MIND, or AN EVENT THROUGHOUT A GIVEN TEMPORAL DURATION. Of course, as we shall see, there are other discriminations that can be made with respect to logical form of mind, but they all in effect follow from this essential formulation.

Next we will consider the relation of mind to nature in the act of perception in order to enhance the epistemological clarity of our theory. The reader would find it helpful to consult Chapters I and III of Whitehead's Concept of Nature, for a more comprehensive and precise exposition of the theory to be presented. It should be noted, however, that the writer's position slightly differs

from that of Whitehead's with respect to a somewhat greater emphasis upon the "uniqueness" of mind as a creative functional component of nature. It is for this reason that we shall not remain strictly within his terminological framework (as it has been the case in the past). Also, it should be noted that in Concept of Nature, Whitehead's arguments are generally delivered within a context that he defines as homogeneous thought:

> Thus in a sense nature is independent of thought. By this statement no metaphysical pronouncement is intended. What I mean is that we can think about nature without thinking about thought. I shall say that then we are thinking 'homogeneously' about nature.[104]

However, in our discourse we are not, as it is the case with Whitehead, investigating the theoretical basis of the natural sciences. Our purposes are directly predicated from the objective of analyzing the nature of mind; thus we will be engaging primarily in what Whitehead has defined as heterogeneous thinking:

> Of course it is possible to think of nature in conjunction with thought about the fact that nature is thought about. In such a case I shall say that we are thinking 'heterogeneously' about nature.[105]

Nature will be defined as that externally located region directly perceived through the external bodily senses of individuals. The percepta derived from this region would comprise, during any given experiential event, one class of

---

[104]Whitehead, Concept of..., op. cit., p. 3.

[105]Ibid., p. 3.

percepta involved in actualizing the (at least) dipolar phenomenon of conscious thought. These percepta could also be regarded as stimulus-object EFFECTS (although this is a concept which is more inclusive than merely encompassing natural percepta), and certainly as event-components. In external sense perception, as Whitehead has clearly indicated, we are aware of something that is NOT thought. This is to say, that if we carefully scrutinize our natural perceptual deliverances it is easily understood that human minds do not "think into being" the phenomena of trees, rocks, sounds, other human beings, sounds growing louder, cars passing one another, felt increases in temperature, etc. Rather, all possible natural stimulus-object effects are UNIQUE CONTRIBUTIONS to mind; hence they are LOGICALLY distinct from denotative and connotative event-components. But strictly speaking, this mode of characterization is suitable primarily for discursive purposes (as stated in Chapter One) because it clearly portrays the 'contribution' notion. The concrete fact is that natural stimulus-object effects CANNOT be EXPERIENTIALLY separated from those percepta NECESSARILY CONCOMITANT with them for this would violate the dipolar definition of mind (while also, of course, being discordant with direct experience). Although it is possible for an individual to perceive a red object, for example, and not CLEARLY consciously (DENOTATIVELY) conceive the object as being 'RED', the person cannot divorce himself from the fact that there IS a vague (CONNOTATIVE) perception that COULD be characterized as 'RED'

IF he intended to clearly (symbolically) define the awareness. The point to be made is that to be consciously aware at all necessarily means that vague symbolic connotation, or even more minimally, emotional feeling, is causally efficacious, for to be conscious or minimally aware at all logically demands the efficacity of these vague symbolic or presymbolic domains. In fact in mature intelligence it is perhaps impossible to experientially divorce vague symbolic connotation from emotional feeling. This point will become more clear as we proceed.

A distinction to be clearly made in the present discussion is that natural stimulus-object effects ARE event-components, and therefore, are elements of mind. The exact meaning of a stimulus-object EFFECT can be defined as the WAY that the natural world AFFECTS us as perception; it is HOW the natural world (and of course, this distinction applies also to the internal bodily organism functioning also as a stimulus-object), functioning as a stimulus-object capable of yielding perceptual EFFECTS, PARTICIPATES or INGRESSES into our individual consciousness. Effects are components of consciousness itself. This leads us to the equally as important fact that -- first, speaking in terms of mind, and then, the natural world -- stimulus-object EFFECTS ('contribution') have as their TERMINI, stimulus-objects. TERMINI are the entities that comprise the natural world. They exist independently from mind. Thus minds can know stimulus-objects only as they DIRECTLY appear, hence participate, within consciousness. We

reiterate, mind can only know stimulus-objects through their EFFECTS. Thus the concept of stimulus-object as a thing-in-itself is, in all cases except those regarding individual human beings, a LOGICAL POSTULATION facilitating a 'relativity' spatio-temporal view of things. Hence, LOGICALLY speaking, it is possible to say that we may participate in the purely subjective being of a rock, for example (if we were to crack the rock, let us say, by striking it), just as a rock is capable (as a stimulus-object effect) of participating in our being as an event-component (or even, in an 'unconscious' way, using the example of a child who has swallowed a substance EVENTUALLY having a disruptive effect on certain physio-chemical processes, although provoking no immediate subjectively ascertainable ill effects at the outset of the assimilation). The possibility of this reciprocal ingression of stimulus-object effects among stimulus-objects does not sound nearly as absurd when the stimulus-objects are exclusively human beings engaged in complex discussion, for example! Thus the only thing-in-itself that any individual human being can experientially know -- one that is remarkably sophisticated, having (logically speaking) vastly superior subjective experience than that of lower ordered organisms -- is one's own conscious states; emergent phenomena made possible through the complex structure of one's physical organism. We may conclude, then, by saying that the nature of stimulus-objects cannot be intellectually

conceived beyond the way in which they AFFECT us, for any further understanding would demand that we somehow BECOME those stimulus-objects, therefore, leading us to an absurd conclusion. However, this is no source for perplexity because stimulus-object effects reveal a great deal about the nature of stimulus-objects; namely, their occurrence as entities, having properties and internal and external relations with other entities. More will be said about the perceptual process of perceptually apprehending external and internally located stimulus-objects in a forthcoming section entitled, "Stimulus-Objects and Their Effects", for although a brief introduction to this topic has been presented, there are many additional ramifications to this issue, thereby warranting a more precise analysis of the basic notion.

We have briefly analyzed the way in which mind stands in relation to nature in the act of perception. The problem of mind's (as a unified entity) relation to its own (purely) ideational states (i.e., event-components) has been postponed for a short time in order that necessary preparational measures be taken to introduce the matter with minimal confusion. Previously, the concept of experience had been defined; at that time the term 'event' was introduced to provide the more exact notion of UNITS of experience. Next, as it has been repeatedly suggested, it will be seen that UNITS of experience can be further analyzed into elements defined as EVENT-COMPONENTS.

It was said that the concept of 'event' was possible for it coincided with all conceivable concrete acts of human experience. This means that by reflecting upon how we conceptualize any given matter of concern it can be seen that we think in atomic units or complete thoughts. The structure of linguistic expression demonstrates this fact in that thoughts are expressed in COMPLETE sentences; although this need not always be the case, for occasionally a mere spoken or silently thought word has the same effect upon us as an entire sentence. For example, the single utterance 'freedom', as stated, can yield an atomic unit of meaning whose implications can extend from a clear (denotative), literal symbolic meaning to the depths of our compelling subjective emotional feeling; all this occurs in the single unitary moment required to express or silently entertain the concept. Thus the stubborn fact of this illustration, as well as that of sentence structure, is merely to recognize the inextricable ATOMICITY of EVENTS. All the indefinitely subtle elements of these two types of occasions (i.e., complex sentences, or single words) ontallogically occur as a novel complex of ideational factors whose spontaneous mode of meaningful emergence is ACTUALIZED as FACT when the phenomenon occurs as it does, hence gaining particularity. Also, all possible perceptual elements involved in each event must necessarily be classifiable into the (at least) dipolar equation of 'percepta concomitantly coming constructively to bear upon other percepta'. Thus the elements participating in these

two events are technically defined as event-components. But, over and above this is the extremely important fact that the event-components are intrinsically bound to their unique mode of appearance during the original, unitary event. This, as we have said, is the only type of phenomenal occurrence that could be conceived as "pure" FACT of nature, for in the truest sense, it WAS 'that which was (or is) the case'. The EVENT of an individual expressing and hence experiencing the full implication of the utterance 'freedom; IS the FACT for "THAT" individual throughout "THAT" TEMPORAL DURATION and LOCATION of occurrence. However, from what has previously been said about the nature of fact, it was concluded that the sheer complexity and perceptual subtlety of any type of factual occasion is far broader than mind's capacity to symbolically grasp the comprehensive experiential moment. The problem is further compounded by the transitory character of nature, i.e., the present moment is "perceptually perishing", never to be retrieved in its original particularity. Even in the act of REFLECTING upon the immediately preceding moment when having thought the concept 'freedom' (thus endeavoring to symbolically explicate some of its connotatively embodied meaning), the conditions have been met for defining two cognitive acts (viz., thinking and then reflecting upon past thinking) as separate successive events. This is necessarily the case for the original atomicity of the antecedent occasion had been destroyed by the subsequent ideational act of critically reflecting upon the immediately

preceding concept of 'freedom' with its numerous MEANINGFUL ramifications. Therefore the notion of event-components is a theoretical device for facilitating analyses of atomic units of experience termed 'events'. The point to be made is that it is logically impossible to directly experience an event-component in its particularity, for what we experience are EVENTS; unities comprised of event-components. Thus event-components are entities isolated through the usage of analytical reflection.

To illustrate the extensive implications of the concept 'event-component', let us consider the simple event, 'I see the white bird flying'. In this example we begin with the dipolar discrimination of an 'I' or a particular mind at a particular time and place directly perceiving or "standing over against" a particular configuration of natural stimulus-object effects ingressing into consciousness and corresponding to a particular natural-world stimulus-object. Next, there is the denotative symbolic characterization 'I see the white bird flying', considered in its barren literal form or contemplated as logically distinct from its connotative symbolic elements or event-components. Here the notion of denotative barrenness must be understood. Considered in itself as, for example, a mere natural world sound /that is, the bare uttered or thought concept stripped of its connotative meaning. It should be noted, however, that it is IMPOSSIBLE for a mature intelligence to ENTIRELY divorce connotative meaning from its denotative element

during a subjective psychological experiential act, for the human mind reflexively attributes an inferential (connotative) meaning to every perception achieving the status as a denotative thought-component. This assertion can be affirmed apart from considering the accuracy inaccuracy of conceptualized inferences. For example, a strange sound may enter our consciousness unexpectedly. Although we may not clearly (denotatively) symbolize the phenomenon as a 'bell ringing' or 'branches cracking', two things can be said:

1) the perception of a sound is apprehended by a consciousness as an event-component

2) an individual's connotative symbolic resources are spontaneously (non-intentionally) scanned to yield an appropriate denotative symbolic characterization of the sound (also event-components)

From this, SOME minimal (at least) connotative subjective psychological meaning comes constructively to bear upon the distinguishable perception of a sound. We may conclude, then, by saying that EXPERIENTIALLY speaking, it is impossible for a mind to entertain bare denotative meaning.[7] in a similar sense as, for example, the HEARD articulation of an unfamiliar foreign language or nonsense syllables, the constitutive symbolic elements of a denotative assertion ARE event-components. Further, the extent to which the denotative expression SIMPLIFIES the ACTUAL natural world perceptual deliverances of the original event is extraordinary. It has been said that 'contributed' perceptions are known in their FORM as entities, properties of entities,

relations among properties of entities, and relations among proximate entities as they are directly perceptually apprehended. The following analysis of the perceived phenomenon -- now placing emphasis upon the 'contributed' element -- will give us some idea of the extent to which the verbalization 'I see the white bird flying' actually SIMPLIFIES the perceived occasion. Let us preface the PARTIAL analysis by saying that the notion of an ENTITY refers to ANYTHING -- object, property, relation -- that is comprehended as a PHENOMENAL UNITY. This is to say that the "something" (the entity) is perceived with sufficient clarity and distinctness that it is, at least, minimally understood to be a "something" amid a consciously apprehendable CONTRASTING background of perceptual "othemess".

The incomplete analysis of the perceptual 'CONTRIBUTION' is as follows:

1) possible perceivable entities:

   a) the white form as distinct from a blue (sky) background

   b) the blue background streaked with (relatively) stable brownish-black lines (tree limbs, for example)

   c) innumerable shapes of objects

   d) brownish-black lines distinct from a blue background

   e) etc.

2) possible perceivable properties of entities:

   a) whiteness

   b) blueness

c) browmish-blackness

d) texture of bird

e) texture of trees

f) texture of sky

g) etc.

3) possible perceivable relations among properties of entities:

a) wings move in relation to body of bird

b) head is smaller than body

c) etc.

d) branches tapdr in shape

e) branches are thinner than trunk

f) branches "fan out" and upward in relation to trunk

g) etc.

4) possible perceivable relations among entities:

a) bird moves in relation to trees and sky

b) trees are permanent in relation to bird's flight

c) sky is permanent in relation to bird's flight

d) sky and tree are both relatively permanent in relation to bird's flight

e) flapping wings moves bird into flight

f) etc.

Without becoming tedious, this BRIEF listing of possible entities, properties, and relations provides us with some idea of the myriad implications of the contributed perceptions in the phenomenon 'I see a white bird flying', and the considerable simplificational power of symbols. All these are, in effect, event-components. From this, it is not

difficult to understand that the elements of experiential events can be far more numerous than mind's capacity to symbolically represent or fully comprehend them (although, conversely, much data is neurologically stored without the necessity of clear consciousness as a precondition).

So far, we have presented a cursory analysis of the many possible event-components IMPLICITLY suggested in denotative symbolic meaning and the 'contributed' natural world perception involved in the simple conscious phenomenon 'I see the white bird flying'. We have yet to mention the enormously greater number of possible event-components that are concomitantly IMPLICIT within such assertions, assuming the form of connotative meaning. Connotative meaning, as it has often been said, fills-out the bare distinct percepta of mental events with subjective psychological meaning as connotative percepta synthetically come to bear upon 'contributed' and denotative symbolic perception. One who has understood this synthetic process will have comprehended the logical and psychological nature of subjective psychological experience of mind. A mere hint of this extraordinary human phenomenon is contained in the following brief exposition of the statement 'I see a white bird flying':

1) ALL the learned associations IMPLICIT within the percipient's self-concept (viz., 'I', vague as they are) as they are concentrated in the moment of time needed by the percipient to meaningfully utter the word 'I' as the initial word of the entire sentence.

2) ALL the learned associations IMPLICIT within the percipient's apprehension of the natural

> world phenomenon, 'see the white bird flying'. This entails an active, operational understanding of a language system such that phenomenal components like those occurring in our analysis of the perceptual contributions of the natural world (above) can be nearly automatically (symbolically) characterized, and understood as subjective psychological meaning.

Our analysis of the event, 'I see a white bird flying', has demonstrated the incredible number of possible event-components that are either explicitly discernible (e.g., the denotative symbols used to articulate the perceptual apprehension, and those contributed percepta that are clearly consciously perceived) or implicitly present (the vast implicit symbolic domain necessary to fill-out the denotative symbols with MEANING-AS-DIRECTLY-FELT-RELATED-NESS, and the large number of unclearly apprehended contributed perceptions that are omitted by the simplified denotative utterance) in ANY SINGLE MENTAL EVENT. This is in full concordance with the concept of mind as 'percepta (denotative and connotative symbolic percepta) concomitantly coming constructively to bear upon other percepta (contributed natural world and internal orgamismic percepta).

It has been repeatedly mentioned that ideational or symbolic event-components are a product of high-grade organic concrescence and transcendent concrescent synthesis. In this process primordial emotional feeling is subsumed to extensive DISCIPLINE, the net result being the development of a highly complex, INTERRELATED symbolic system, each symbol of which possesses three peripheries of subjective psychological meaning: denotative meaning and connotative

meaning, the latter of which is further subdivided into vague symbolic meaning and vague emotional feeling. Through the acquisition of symbolic behavioral capacities the human organism is able to characterize innumerable entities, properties and relations contributed from natural and internal bodily environmental states throughout time. But this is to say far more -- specifically, now with respect to INTERNAL bodily perceptual contributions -- than, perhaps, the original statement literally implies because we have seen that the human organism can TRANSCEND mere organic bodily and higher-grade emotional feelings, for the acquisition of symbolic capacities necessarily implies that (as Cassirer has said) a new DIMENSION of reality is achieved. This third dimension of reality is a NOVEL CAUSAL DOMAIN (a point that will be developed in greater detail, later) having been defined as subjective psychological awareness, consciousness or experience. In this uniquely human domain, because of symbolic acquisition, conscious experience can attain denotative clarity, and therefore, cognitive precision. The basis for these capacities is grounded in the fact that the human organism's STRUCTURE is such that it can experience perceptions, and moreover, ones that are IMPORTANT (whether in the primitive sense of mere CONTRAST -- e.g., the glitter of a trinket -- or in the most sophisticated form of asthetic understanding), thereby submitting them to symbolically meaningful simplification (and frequently, oversimplification). But

immediately we must remember in conjunction with this view that simplification refers primarily to the denotative element of symbolic characterization while the simplified element is concomitantly constructively infused and thereby extraordinarily enhanced by the WISDOM of the past occurring as MEANING-AS-DIRECTLY-FELT-RELATEDNESS. It is precisely for this reason that 'simplification' must not be confused with the notion 'oversimplification'. The latter, in a sense, refers to what Whitehead has defined as 'misplaced concreteness' where, in fact, a very high abstraction is erroneously regarded as a concrete fact of experience when it is ideationally utilized in characterizational and constructive thinking. Therefore, the point to be made is that the "third dimension" of reality, disclosed as a class of event-components occurring in conjunction with contributed natural or organic bodily perceptions, or as it can also assume the mode of contributed percepta (stimulus-object EFFECTS resulting from previously formulated ideas which acquire the status of stimulus-objects merely because they are PAST OCCURENTS) concomitantly "standing over against" other symbolic percepta, is a truly unique realm -- distinct from natural world stimulus-object effects and those resulting from organic bodily states -- in that conscious awareness and reflective consciousness, with their intrinsic symbolic nature, are now CAUSALLY EFFICACIOUS BEHAVIORAL DETERMINANTS over and above brute materialism or reflexive (epiphenomenalistic) mechanism. Identity theory bears out

this conclusion in that statements representative of the two latter theoretical positions CANNOT DERIVE, ANALYTICALLY, statements designating the subjective psychological realm. In fact, statements of the subjective psychological domain must be PRESUPPOSED A PRIORI in order that discourse in the other two (or ANY meaningful) realms may ensue AT ALL! The reasons for this were elucidated in "Chapter One".

If event-components are perceived INTRINSICALLY as entities, properties and relations contributed from the natural world and internal organic bodily stimulus-object effects (that ingress into mental events and are subsequently symbolized, or unsymbolized in the sense that a person may experience the event-component 'red' without denotatively defining it as such), and if event-components may also include the entities, properties and relations of ideational (symbolic) feeling --- occurring as contributed components from MEANING-AS-DIRECTLY-FELT-RELATEDNESS (a concept that is in need of further elaboration) ---, it can be seen that we have a theoretical framework capable of yielding an EXHAUSTIVE account OF ALL POSSIBLE COMBINATIONS OF PERCEPTA [occurring in (at least) dipolar organizations] that are capable of CONSTITUTING ALL POSSIBLE MENTAL EVENTS! Further, the equally important conclusion follows that because of the definitional meaning of each category of percepta capable of being (at least) dipolarly actualized as a mental event [viz., external bodily perception, organic bodily feeling, and ideational (symbolic) feeling], conditions -- ones that can be DIRECTLY ASCER-

TAINED AS COMPONENTS OF CONCRETE SUBJECTIVE PSYCHOLOGICAL EXPERIENCE -- are such that mind can be seen to be an incredibly complex, dynamic system of synthetically actualized percepta which, in their perceptual unification throughout temporal durations (viz., as mental events), can SUBSUME THEMSELVES (within the context of complete events) to PROGRESSIVE DISCIPLINE. This is a phenomenon which most of us intuitively understand (although, perhaps vaguely) as the creative or innovative power of mind. Subjective psychological experience as a unique CAUSAL dimension of reality (over and above a materialistic mechanism, for example) means that CONTEMPORANEOUSLY occurring ideational event-components, as intrinsically non-natural entities (in the sense that they are not directly perceivable via the external bodily senses) SYMBOLICALLY REPRESENTATIVE of natural and organic bodily stimulus-object effects or percepta, in conjunction with PREVIOUSLY synthesized pure symbolic ideational event-components that ingress into contemporary occasions of experience as stimulus-object effects, can both be INTENTIONALLY utilized (particularly at mature levels of human development) for organizing and hence manipulating other symbolized components of experience. It is precisely because of man's capacity to symbolically comprehend some of his experience, and to subsequently ELABORATE the CONTENT and QUALITY of subjective psychological experience in a way intrinsically transcending the mere perceptual deliverances of external and internal bodily and emotional modes --

such that an extensive repertoire of ontalogically unique (in the sense of being disciplined emotional feeling) symbolic entities (possessing unique properties and relations) are constructed --, that human thinking is rendered possible: GIVEN ONLY THE INTRINSIC NATURE OF THE EVENT-COMPONENTS THAT CAN CONCEIVABLY CONSTITUTE MENTAL EVENTS. It will be noted that the term 'ELABORATE' was used advisedly to indicate the TRANSCENDENT status of symbolic thinking, for even at this more sophisticated level of behavior, all SYMBOLIC entities, properties and modes of synthetic relation are ultimately derived from the essential way that external bodily perception and internal bodily and emotional feeling ingress as entities, properties and relations. Thus human symbolic thinking can be described as the process of imposing FORM (disciplined ideational organization) on the MATTER (the CONTRIBUTED natural and internal organic bodily event-components) of experience. Stated more abstractly, it is the process of event-components necessarily occurring as atomic unities of human experience, BY THEIR INTRINSIC NATURE AS SUCH, acquiring self discipline, and to some extent, self-direction throughout space-time. In this process a phenomenon gradually develops described by Cassirer in the following way:

> Man cannot escape from his own achievement. He cannot but adopt the conditions of his own life. No longer in a mere physical universe, man lives in a symbolic universe. Language, myth, art, and religion are parts of the universe. They are the varied threads which weave the symbolic net, the tangled web of human experience. All human progress in thought and experience refines upon

> and strengthens this net. No longer can man confront reality immediately; he cannot see it, as it were, face to face. Physical reality seems to recede in proportion as man's symbolic activity advances. Instead of dealing with the things themselves man is in a sense constantly conversing with himself. He has so enveloped himself in linguistic forms... that he cannot see or know anything except by the interposition of this artificial medium.[106]

To say that every possible human event (which is necessarily private or mental in the sense that ONLY we as individuals can DIRECTLY experience the percepta that we in fact DO experience. This is merely another way of stating the obvious fact that only 'I' can be the subject of 'my' particular experience, thus demanding the conclusion that EVERYTHING which we recognize as 'life', 'reality', etc., NECESSARILY PRESUPPOSES INDIVIDUAL STREAMS OF CONSCIOUSNESS. This is not to say, obviously, that the real world which exists independently of each of us is CONTINGENT on our particular consciousness for ITS existence.) is an atomic, inextricably unified element in the dynamic experience of a particular individual at a particular place throughout a particular temporal duration, and further, that each of these particular events can be (PARTIALLY) REFLECTIVELY (through logical analysis, for we cannot directly experience ISOLATED event-COMPONENTS; rather, only atomic events) analyzed into event-components, is to express a fact of concrete experience easily overlooked and often misunderstood. Even a partial summary of the manifold implications

---

[106] Cassirer, An Essay..., op. cit., p. 25.

of this statement would entail reiterating everything that has been propounded in this discourse. Therefore, let us place primary emphasis upon the most important EXPERIENTIAL aspect of this assertion. The writer maintains that what each of us directly experiences throughout every particular conscious atomic (in the sense that our CLEARLY determined experiences, acquiring symbolic precision because of the human organism's capacity to SIMPLIFY IMPORTANT portions of events, are clarified as ATOMIC IDEATIONAL UNITS, e.g., 'I see the table', 'The fire is burning brilliantly', etc.) moment of experience (only a PORTION of which is subject to symbolic specification) can be THEORETICALLY analyzed into EVENT-COMPONENTS. Of course this theoretical advance is NOT concretely suggested in direct experience. A considerable reflective effort is required to formulate constructs from a backlogue of concrete perceptual deliverance. Thus the notion of 'event-component' arises only from a highly abstract conception of human experience. It demands a deliberate, prolonged reflective effort to theoretically contemplate our concrete experiential moments as synthesized from a comparatively small number of CATEGORICALLY DISTINCT ELEMENTS perceptually appearing and reappearing in both diverse and similar ontalogical FORMS. This is to say, on one hand, that the particular shade of green observed in a leaf (an entity possessing a determinate, distinctive form) can reappear in a green dress (an entity possessing a form and properties differing from those of a leaf), for example, during another event. But on the other hand, continuity and

coherence in ideational processes are, in great part, rendered possible by the temporal endurance or reoccurring perception of particular entities. For example, this is merely to say that the green leaf observed by an individual on two successive days was the SAME leaf in both occasions. Here we are bordering on difficult metaphysical issues that must be avoided for the purposes of this discourse. Our emphasis rests squarely upon formulating a subjective psychological theoretical comprehension of directly experienced mental events. The point being made is, it is conceivably theoretically fruitful to comprehend every possible experiential event as comprised of basic PERCEPTUAL ELEMENTS (event-components) which occur and reoccur throughout space and time in both similar and different configurational modes. Let us use as an illustration a moment of the writer's experience, loosely defined as a single event in a therapeutic interaction between a client and the writer. The more conspicuous event-components throughout the particular temporal duration were roughly the following: the vague awarenss of books on shelves, manifesting a multitude of diverse shapes and colors; the vague awareness of the room as an enclosure; the vague awareness of furniture in the room with the many characteristic properties of each piece; the more clear awareness of the overt physical nature of the client sitting before the writer; a rather clear awareness of the exchanged verbalizations and their meanings, in addition to other closely associated behaviors such as the client's head occasionally turning from side to side,

the only occasionally achieved eye contact, etc.; a rather clear apprehension of dynamic patterns of emotional and idcational states directly accessible to the writer as the client-counselor interaction transpired, e.g., periodic feeling of dislike for the client, feelings of anger, moments of reflective analysis of certain key phrases articulated by the client, moments of reflective analysis on why the writer had occasionally reacted angrily to certain client responses, determined analytically reflective efforts made by the writer to clearly and concisely express certain concrete phenomenal occurrences manifested within the emerging therapeutic interaction, etc. These conscious recollections of a moment in the writer's experience during a therapeutic event constitute only a very small number of the myriad factual details of that occasion. The illustration readily demonstrates the profound complexity of human experience and the limited success of linguistic exposition in attempting to recapture the inextricable unity of a directly experienced event.

Yet even when confronted with the fact that language has obvious limitations in its usage as an instrument for symbolically portraying elements of previous human experience in their original complexity and animation, it is possible to present a schematization of ALL the possible CATEGORIES of perceptual event-components capable of ingressing, in principle, into ANY individual's experiential events during ANY particular occasion. Such an exposition would be of great value to a subjective psychology for

analyzing both the PERCEPTUAL CONTENTS and MODES OF IDEATIONAL SYNTHESIS typically implemented by individuals in problem solving. The scientific importance of this categorical analysis may not be readily apparent at this point for its significance must actually be pondered in light of additional constructs to be subsequently developed in order to appreciate some of the law-like relations demonstrated in DYNAMIC subjective psychological experience. Of course this enquiry must be governed by the constructs presently being developed for defining the LOGICAL FORM of mind. Therefore each experiential event, logically manifesting with A PRIORI necessity the essential dipolar FORM of natural or internal bodily perceptual CONTRIBUTIONS as they are concomitantly (and synthetically) actualized with SYMBOLIC percepta, must necessarily be comprised, during any given event, of at least some of the following THREE CATEGORIES OF EVENT-COMPONENTS OUT OF WHICH ALL POSSIBLE SUBJECTIVE PSYCHOLOGICAL EVENTS MUST BE CONSTITUTED:

I. EXTERNAL BODILY PERCEPTIONS:

1) VISION

a) ENTITIES

1) SPATIAL PARTICULARITY

2) FORM DEFINING BOUNDARY OF COLORS

b) PROPERTIES

1) PARTICULAR COLORS THEMSELVES

c) RELATIONS

1) CHANGE AMONG FORMS

2) CHANGE IN INTENSITY OF PROPERTIES

2) SMELL

a) ENTITIES

1) SPATIAL PARTICULARITY

b) PROPERTIES

1) PARTICULAR ODORS THEMSELVES

c) RELATIONS

1) CHANGE AMONG ODORS

2) CHANGE IN INTENSITY OF PROPERTIES

3) SOUND

a) ENTITIES

1) SPATIAL PARTICULARITY

b) PROPERTIES

1) PARTICULAR SOUNDS THEMSELVES

c) RELATIONS

1) CHANGE AMONG SOUNDS

2) CHANGE IN INTENSITY OF QUALITY OF PROPERTIES

4) TASTE

a) ENTITIES

1) TACTUALLY FELT PARTICULARITY

b) PROPERTIES

1) PARTICULAR TASTES THEMSELVES

c) RELATIONS

1) CHANGE AMONG TASTES

2) CHANGE IN INTENSITY OR QUALITY OF PROPERTIES

5) TOUCH

a) ENTITIES

1) TACTUALLY FELT PARTICULARITY

2) FORM DEFINING BOUNDARY OF ENTITY

b) PROPERTIES

1) THE PARTICULARITY OF PERCEPTION, E.G., HOT, COLD, WARM, COARSE, SMOOTH, ETC.

c) RELATIONS

1) CHANGE AMONG PROPERTIES

2) CHANGE IN STATE OF PROPERTIES, E.G., SOLIDITY, FLEXIBILITY, HOT-TO-COLD, ETC.

II. ORGANIC BODILY FEELING PERCEPTIONS

a) ENTITIES

1) ORGANICALLY FELT PARTICULARITY

b) PROPERTIES

1) PARTICULAR INTERNAL FEELINGS THEMSELVES

c) RELATIONS

1) CHANGE AMONG PROPERTIES

2) CHANGE IN INTENSITY AND QUALITY OF PROPERTIES

III. IDEATIONAL FEELING PERCEPTIONS

1) EMOTION (VAGUE, UNSYMBOLIZED IDEATIONAL FEELING)

a) ENTITIES

1) EMOTIONALLY FELT PARTICULARITY

b) PROPERTIES

1) PARTICULAR DISTINCTIVE AND/OR QUALITATIVELY UNIQUE EMOTIONS THEMSELVES

2) VERY VAGUE, CONSCIOUSLY FELT QUALITY

c) RELATIONS

1) CHANGE AMONG PROPERTIES OR ENTITIES

2) CHANGE IN INTENSITY AND QUALITY OF PROPERTIES

2) CONNOTATIVE SYMBOLIC IDEATIONAL FEELING

a) ENTITIES

1) THE PARTICULAR VAGUE SYMBOLIC UNITY THAT IS THOUGHT

b) PROPERTIES

1) THE PARTICULAR CONFIGURATION OF MEANING-AS-DIRECTLY-FELT-RELATEDNESS

2) VAGUELY CONSCIOUS EMOTIONALLY FELT QUALITY

c) RELATIONS

1) CHANGE AMONG PROPERTIES

2) CHANGE IN INTENSITY AND QUALITY OF PROPERTIES

3) DENOTATIVE SYMBOLIC IDEATIONAL FEELING

a) ENTITIES

1) THE PARTICULAR (USUALLY LINGUISTIC) SYMBOL THAT IS THOUGHT

b) PROPERTIES

1) THE PARTICULAR CLEARLY CONSCIOUS SYMBOL ITSELF, (LOGICALLY) DISTINCT FROM THE CONNOTATIVE SYMBOLIC ELEMENTS

2) PURE SUBLIMATED FEELING

c) RELATIONS

1) CHANGE AMONG PROPERTIES

The above schematization of the possible CATEGORIES (hereafter simply termed 'the Categories') OF EVENT-COMPONENTS is intended to be an exhaustive exposition in that ALL POSSIBLE ELEMENTS of subjective psychological experience can be comprehended within these categories. However, the specific subcategories contained under 'entities', 'properties', and 'relations' do appear to be

susceptible to alternate modes of classification, and without question, the Categories are capable of further subclassification. The Categories are, in effect, an exposition of the possible types of "matter" that may receive "form" through subjective psychological experiential actualizations.

In our discussion of theoretically comprehending the LOGICAL FORM of human experience, there is one final step to be considered that will complete our formulation (at least for the present) of this concept. Thus far, beginning with a definition of the most inclusive term 'experience', there has been a determined effort to progressively introduce constructs that demonstrate the UNIVERSAL STRUCTURE of experience in ALL its possible modes of concrete occurrences. Hence the notions of 'event', 'event-component', and finally, the 'Categories' were defined. Here the basic principle upon which our enquiries have been based is that if an adequate concept of mind is to be developed, it appears absolutely essential that THAT out of which mind is "SUBSTANTIVELY" comprised must be clearly elucidated. For it is unsatisfactory to contemplate mind as merely a "behavioral PROCESS" capable of exhaustive comprehension solely through its MANIFEST effects. As it has been repeatedly argued, this is to deny FACTUAL phenomena known to us through direct acquaintance as ideational states. Since consciousness and reflective consciousness ARE ideational stated in PROCESS, NECESSARILY having BOTH objective and subjective psychological factual manifestations, it is a

serious error to maintain that the nature of mind is entirely ascertainable by only an objective psychology or vice versa. Therefore, a satisfactory concept of mind must not only portray mind as PROCESS, but in addition, it is imperative to define THAT (viz., ideational feeling with its global behavioral manifestations), subjective psychologically speaking, which is in process, as well. Particularly in this chapter, an attempt is being made to precisely define the FORM of that which is in process, and later proceed to partially demonstrate the RELATION of the UNIVERSAL LOGICAL FORM as it is contrasted with the concrete PROCESS of mind. This two-fold analysis will yield a basic subjective PSYCHO-LOGICAL conceptualization of human experience from which experimental enquiries may ensue. At this point, however, now that the elements of THAT which is process have been designated, constructs must be developed showing the precise relationship AMONG mental events collectively comprising the process of mind. The constructs that can fulfill this requirement are those of SPACE and TIME, ulitized to define the theoretical limits of concrete experiential events both as instantaneous spatial apprehensions and during temporal evolvement.

Our views with regard to the concepts of space and time will be essentially those formerly articulated with great clarity and precision by Alfred North Whitehead. It is impossible to cite a single work of Whitehead's that deals exhaustively with his theory of these concepts. Perhaps it will not be too much to say that nearly all of his works

contain a somewhat unique approach to expressing his basic thoughts on these problems. The books from which we shall liberally cite quotations would probably be the most suitable ones for those who are unfamiliar with Whitehead's works; particularly as they have relevance for the problem of mind conceived within our theoretical framework. A further point to be made is that our consideration of Whitehead's conceptions of space and time will be merely introductory. However, for those whose primary interest in the concept of mind being proposed by the writer is EXPERIMENTALLY grounded, a more penetrating study of his 'space-time' is absolutely essential.

Whitehead maintains that there has been a prevailing misconception in philosophy and science subtly responsible for creating major theoretical problems in these disciplines by predisposing mentalities for an erroneous conception of the essential nature of the material world. The error can be expressed as follows:

> Thus the origin of the doctrine of matter is the outcome of uncritical acceptance of space and time as external conditions for natural existence. By this I do not mean that any doubt should be thrown on facts of space and time as ingredients in nature. What I do mean is 'the unconscious presupposition of space and time as being that within which nature is set'. This is exactly the sort of presupposition which tinges thought in any reaction against the subtlety of philosophical criticism. My theory of the formation of the scientific doctrine of matter is that first philosophy illegitimately transformed the bare entity [here the term 'entity' has essentially the same meaning that we had ascribed to it in our former discussions on 'event-components'], which is simply an abstraction necessary for the method of thought, into the metaphysical

substratum of these factors in nature which in various senses are assigned to entities as their attributes; and that, as a second step, scientists (including philosophers who were scientists) in conscious or unconscious ignoration of philosophy presupposed this substratum, QUA substratum for attributes, as nevertheless in time and space.

This is surely a muddle. The whole being of substance is as a substratum for attributes. Thus time and space should be attributes of the substance. This they palpably are not, if the matter be the substance of nature, since it is impossible to express spatio-temporal truths without having recourse to relations involving relata other than bits of matter. I waive this point however, and come to another. It is not the substance which is in space, but the attributes. What we find in space are the red of the rose and the smell of the jasmine and the noise of cannon. We have all told our dentist where our toothache is. Thus space is not a relation between substances, but between attributes.

Thus even if you admit that the adherents of substance can be allowed to conceive substance as matter, it is a fraud to slip substance into space on the plea that space expresses relations between substances. On the face of it space has nothing to do with substances, but only with their attributes. What I mean is, that if you choose -- as I think wrongly -- to construe our experience of nature as an awareness of the attributes of substances, we are by this theory precluded from finding any analogous direct relations between substances as disclosed in our experience. What we do find are relations between the attributes of substances. Thus if matter is looked on as substance in space, the space in which it finds itself has very little to do with the space of our experience.[107]

It is clearly evident from the above quotation that the "substratum" view of the material world generates certain highly problematic issues; one of them embodying a concept of space that is seriously discordant with our concrete experiential perceptions of the natural world for it over-

---

[107] Whitehead, Concept of..., op. cit., pp. 20-21.

looks the fact that our perceptions are actually of the natural world appearing to us as attributes (or properties) of and relations among entities. Also the "substratum" theory deemphasizes the SEPARATIVE, PREHENSIVE and MODAL characters of space-time:

> Things are separated by space, and are separated by time: but they are also together in space, and together in time, even if they be not contemporaneous. I will call these characters the SEPARATIVE and the PREHENSIVE characters of space-time. There is yet a third character of space-time. Everything which is in space receives a definite limitation of some sort, so that in a sense it has just that shape which it does have and no other, also in the same sense it is just in this place and no other. Analogously for time, a thing endures during a certain period, and through no other period. I will call this the MODAL character of space-time. It is evident that the modal character taken by itself gives rise to the idea of simple location. But it must be conjoined with the separative and prehensive characters.[108]

But we are advancing a bit too rapidly in introducing the concept of time without yet having considered an EXTREMELY IMPORTNAT ERROR that has traditionally been made in philosophy and science with respect to the concept of time; an error that has EXTRAORDINARY IMPLICATIONS for conceiving, theoretically, subjective psychological experience, and a science thereof. Whitehead clearly and concisely delineates this error in the following way:

> The eighteenth and nineteenth centuries accepted as their natural philosophy a certain circle of concepts which were as rigid and definite as those of the philosophy of the middle ages, and were accepted with as little critical research.

---

[108] Alfred North Whitehead, Science and the Modern World (New York: Macmillan, 1925).

I will call this natural philosophy 'materialism'. Not only were men of science materialists, but also adherents of all schools of philosophy. The idealists only differed from the philosophic materialists on the question of the alignment of nature in reference to mind. But no one had any doubt that the philosophy of nature considered in itself was of the type which I have called materialism... It can be summarized as the belief that nature is an aggregate of material and that this material exists in some sense AT each successive member of a one-dimensional series of extensionless instants of time. Furthermore the mutual relations of the material entities at each instant formed these entities into a spatial configuration in an unbounded space. It would seem that space -- on this theory -- would be as instantaneous as the instants, and that some explanation is required of the relations between the successive instantaneous spaces. The materialistic theory is however silent on this point; and the succession of instantaneous spaces is tacitly combined into one persistent space. This theory is a purely intellectual rendering of experience which has had the luck to get itself formulated at the dawn of scientific thought. It has dominated the language and the imagination of science since science flourished in Alexandria, with the result that it is now hardly possible to speak without appearing to assume its immediate obviousness.

But when it is distinctly formulated in the abstract terms in which I have just stated it, the theory is very far from obvious. The passing complex of factors which compose the fact which is the terminus of sense awareness /what we have defined as 'stimulus-object', hence yielding 'stimulus-object EFFECTS' -- a term roughly to be equated with Whitehead's term, 'sense awareness' -- contributed as perceptions participating as event-components in our conscious events/ places before us nothing corresponding to the trinity of this natural materialism. This trinity is composed (i) of the temporal series of extensionless instants, (ii) of the aggregate of material entities, and (iii) of space which is the outcome of relations of matter.

There is a wide gap between these presuppositions of the intellectual theory of materialism and the immediate deliverances of sense awareness. I do not question that this materialistic trinity embodies important characters of nature. But it is necessary to express these characters in terms of the facts of experience... we have now come up against the

question, Is there only one temporal series? The uniqueness of the temporal series is presupposed in the materialistic philosophy of nature. But that philosophy is merely a theory, like Aristotlean scientific theories so firmly believed in the Middle Ages. If... I have in any way succeeded in getting behind the theory to the immediate facts, the answer is not nearly so certain.... On the materialistic theory the instantaneous present is the only field for the creative activity of nature. The past is gone and the future is not yet. Thus (on this theory) the immediacy of perception is of an instantaneous present, and the unique present is the outcome of the past and the promise of the future. But we deny this immediately given instantaneous present. There is no such thing to be found in nature. As an ultimate fact it is a nonentity. What is immediate for sense awareness is a duration. Now a duration has within itself a past and a future; and the temporal breadths of the immediate durations of sense awareness are very indeterminate and dependent on the individual percipient. Accordingly there is no unique factor in nature which for every percipient is preeminently and necessarily the present. The passage of nature leaves nothing between the past and future. What we perceive as present is the vivid fringe of memory tinged with anticipation. This vividness lights up the discriminated field within a duration. But no assurance can thereby be given that the happenings of nature cannot be assorted into other durations of alternative families. We cannot even know that the series of immediate durations posited by the sense-awareness of the one individual mind all necessarily belong to the same family of durations. There is not the slightest reason to believe that this is so. Indeed if my theory of nature be correct, it will not be the case.

The materialistic theory has all the completeness of the thought of the Middle Ages, which had a complete answer to everything, be it in heaven or in hell or in nature. There is a trimness about it, with its instantaneous present, its vanished past, its non-existent future, and its inert matter. This trimness is very medieval and ill accords with brute fact.

The theory which I am urging admits a greater ultimate mystery and a deeper ignorance. The past and future meet and mingle in the ill-defined present. The passage of nature which is only another name for the creative force of existence has no narrow ledge of definite instantaneous present within which to operate. Its operative

> presence which is now urging nature forward must be sought for throughout the whole, in the remotest past as well as in the narrowest breadth of any present duration. Perhaps also in the unrealized future. Perhaps also in the future which might be as well as the actual future which will be. It is impossible to meditate on time and the mystery of the creative passage of nature without an overwhelming emotion at the limitations of human intelligence.[109]

The clarity and suggestability of this brilliant passage speaks for itself; hence we shall only briefly reiterate certain key concepts as they have particular relevance for our enquiries into the nature of mind, specifically with reference to the notion of time. First it should again be stressed that PROCESS or the incessant change of things, whether their perceptions come to us from internal or external environments, is a primordial fact of direct concrete experience. We had formerly explored some implications of this fact in our discussions on symbolically characterizing individual experiential phenomena and problems inherent in this endeavor due to the vast multidimensionality of even a moment of experience.

But the most important aspect, at least for our purposes in this discourse, of Whitehead's criticism of the materialistic concept of time is the error of, first, contemplating phenomenal reality as occurring "WITHIN space and time", instead of understanding the notions of space and time as intellectually abstracted, DERIVATIVE concepts resulting from having reflectively pondered concrete

---

[109]Whitehead, Concept of..., op. cit., pp. 70-73.

experience. Here is an admirable illustration of 'misplaced concreteness'. Next, following from the untenable materialistic presupposition, and now specifically with regard to the last quotation, it can be seen that if one maintains the "within space and time" view, it is a merely elementary mathematically predisposed inference to assume that the one-dimensional time series intrinsic to the materialistic theory can be subdivided into an infinite number of mathematical points along the temporal continuum. This is to say that it is possible to logically conceive of an infinite number of cross-sectional slices of space extending along a temporal axis, each representing an INSTANTANEOUS, durationless moment of time at which the entire universe at an instant can in principle be mathematically defined in terms of ultimate particles and relations among particles. A major portion of Whitehead's criticism of traditional concepts of time is devoted precisely to this erroneous notion of instantaneous durations of time as being an ultimate fact of nature, for at this point, it is clear to the reader that no such (perceptual) phenomenal occurrence is to be found in human experience; rather, this concept is an idealized (abstract) postulation that had uncritically been incorporated into scientific and philosophical systems. Curiously enough, if we recall our analyses in the first and second chapters, the same criticism appears to be somewhat appropriate to the Skinnerian notion of reflex arc. However, the relevance of the criticism is not with reference to the instantization of temporal

durations, but rather, a different though related consideration. From the unwarranted concept of instantized time it would be necessary, if we were to validate this view in factual experience, to concretely experience an instantaneous event. But there is no such experiential occasion; however, adherence to this erroneous view has predisposed many thinkers to devote insufficient attention to concrete experiential deliverance, hence the CONCRETE EVIDENTIAL bases upon which factual and theoretical assertions have been predicated. This is to say that such assertions issuing from ANY empirical scientific enquiry must ultimately be evidentially verified through some direct perceptual mode. We need only recall the often tedious demand of "fundamentalistic" Positivists, "to present the data", to understand the importance of this epistemological requirement if knowledge claims are to be placed upon firm foundations. Thus the "data" to which Whitehead repeatedly refers are those of direct concrete experience, or often what he terms as 'stubborn facts'. Since direct concrete experience yields no data testifying to the occurrence of instantaneous moments of time, what information about time is revealed in direct experience when the problem is reflectively analyzed? Our perceptions of ANY given occasion, perhaps most primitively, informs us concomitantly of permanence amidst change. This awareness does not require any epistemological deliberation at this low intuitive level of understanding. Therefore if change is perceived amid permanence, in the sense for example, that a perceived chair seems to temporally

endure as a natural object within a back-drop of changing sounds, bodily states, etc., the notion of succession arises. At its highest levels of abstract formulation this concept of succession may be that defined in various formal scnences, but one far more profound than the concrete experiential recongition of time. At unsophisticated levels we merely understand that it "takes time" to construct a house; it "takes time" to read a book; it "takes time" TO THINK A THOUGHT. This is to say that it directly CONTRADICTS THE CONCRETE FACTS OF INDIVIDUAL HUMAN EXPERIENCE -- in which conscious lives are lived, theories are verified, and so on -- TO CONCEIVE OF AN "INSTANTIZED" CONCEPT OF TIME AS A BASIC FACT OF NATURE, FOR THE NOTION IS ENTIRELY INCOMPATIBLE WITH THE CONCEPT OF INDIVIDUAL EXPERIENCE. INDIVIDUAL HUMAN EXPERIENCE DOES NOT OCCUR IN INSTANTANEOUS MOMENTS, RATHER IT EVOLVES INTO ATOMIC ENTITIES THROUGHOUT TEMPORAL DURATIONS. TO CONCEPTUALIZE ANY PORTION OF A HUMAN EVENT AS THEORETICALLY INSTANTANEOUS IS TO SACRIFICE THE SUBJECTIVE PSYCHOLOGICAL MEANING INTRINSIC TO MENTAL EVENT, FOR ACTUALIZING SUBJECTIVE PSYCHOLOGICAL MEANING REQUIRES TIME. The assertion 'I see the brown tree' requires TIME to subjectively understand and hence articulate. It is precisely this "stubborn" fact which demands that a "mind be conceived as standing over against percepta", or more specifically, that 'percepta concomitantly come constructively to bear upon other percepta'. If consciousness is not presupposed a priori in understanding any perceived phenomena then the basic notion of 'UNDERSTANDING' becomes

meaningless. It is for this reason that the writer has said that ALL events in principle available to human comprehension must necessarily be MENTAL EVENTS. Similarly with respect to Behaviorism, although it is obviously understood that TIME must elapse between a stimulus and a response, it becomes wholly untenable to regard a reflex arc as an entirely satisfactory construct for adequately explaining the intervening processes for it has been seen that mind, even minimally defined as awareness or consciousness and reflective consciousness, must necessarily be presupposed A PRIORI in order to intelligibly discuss any matter of concern at all. This amounts to saying, with respect to Behaviorims, that inner ideational states cannot be regarded as causally INefficacious or epiphenomenalistic for Behaviorism must logically presuppose A PRIORI the inner states whose reference it must necessarily purge from its enquiries in order to be consistent with its methodological pronouncements!

Our critical remarks on the concept of time can be briefly summarized as follows:

1) The thought 'I see the brown tree', for example, requires TIME to be meaningfully actualized for subjective psychological events have a necessary intrinsic atomicity which can only be realized in temporal durations. The direct testimony of concrete experience necessitates that this view be held, for all thought or subjective psychologically meaningful experience necessarily occurs in atomic units. This is merely to accentuate the obvious fact that we have such thoughts as 'I see the brown tree', and not 'I see', 'the brown', 'see the', 'brown tree', etc. Moreover, even a single word possessing a unified meaning for persons

thinking or expressing it (thereby qualifying as an event) requires time for its actualization -- brief as the duration may be. But certainly there is no such event in direct human experience as an instantaneous event; hence such a notion is an abstract innovation of reflective consciousness. The notion of instantaneity can be of great value to the formal sciences, but must not be predicated from a 'materialistic' viewpoint for it presupposes the erroneous "within space and time" implication. In the behavioral sciences materialism is the basis for an unwarranted scientific reductionism when conscious processes are considered logically (analytically) identical with correlative physiochemical process; epiphenomenalism is a typical erroneous consequent.

2) In the case of Behavioristic theories, proponents obviously maintain that time is required to establish stimulus-response bonds. The error here, however, is that Behaviorists deny the causal efficacity of inner mental states, hence regarding them as epiphenomena. As it has been said on repeated occasions, absurd conclusions are reached in maintaining that all human thinking is entirely reflexive to the extent of omitting the causal efficacy of consciousness for it is contradictory to conceive of human behavior without presupposing a priori, consciousness and consciously reflective behavior; phenomena that are NOT directly accessible to Behaviorists, while on the other hand, phenomena which cannot be consistently regarded as causally inefficacious. Therefore, the conclusion to be drawn is that Behaviorisms cannot provide, in principle, a complete account of human behavior because of methodological "narrowness". This is to say that personal reports testifying to inner mental and bodily states cannot be admitted as factual evidence. But contrary to this, it has been shown in "Chapter Two" how such personal testimonies can acquire a factual status IF ascertained under appropriately controlled experimental conditions, and interpreted within a suitable theoretical framework: one presently in the process of being developed, termed a subjective psychological approach to studying human behavior.

3) Therefore to remain consistent with the concrete facts of individual perceptual experience --

that domain in which ALL epistemological certitude is ultimately grounded -- it must be conceded that the ultimate basis for ALL intelligent thinking is in particular ideational events atomically evolving within temporal durations; durations in which components of subjective psychological experience develop into complete conscious thoughts.

> What is immediate for sense awareness is a duration. Now a duration has within itself a past and a future; and the temporal breadths of the immediate durations of sense awareness are very indeterminate and dependent on the individual percipient. Accordingly there is no unique factor in nature /or subjective psychological experience, for that matter/ which for every percipient is preeminently and necessarily the present. The passage of nature leaves nothing between the past and the future. What we do perceive as present is the vivid fringe of memory tinged with anticipation. This vividness lights up the discriminated field within a duration. But no assurance can thereby be assorted into other durations of alternative families. We cannot even know that the series of immediate durations posited by the sense-awareness of one individual mind all necessarily belong to the same family of durations. There is not the slightest reason to believe that this is so.[110]

It is from these ontalogically unique subjective psychological occasions that a novel kind of causality is born unto the universe, for unconscious materialistic mechanism has been transcended. Intelligent conscious thinking does not causally result from the same comparatively simplistic basis as in the case, for example, of a thermostat operating as a function of temperature variation; or an organic function that must occur as it does because of certain glandular secretions. Rather, the essence of conscious causality is in the phenomenon of denotative symbolic meaning and its profound concomitant, MEANING-AS-DIRECTLY-FELT-RELATEDNESS, occurring in their

---

[110] Ibid., pp. 72-73.

interpenetrative relationship (viz., in reflective consciousness) with one another and hence providing an ontalogically unique FRAME OF REFERENCE from which modes of behavioral response may be influenced. In saying this, we still remain STRICTLY within the realm of cause-effect functional relations, but relations as contemplated by a broader FACTUAL basis. This is to say that a subjective psychology can systematically analyze a distinct experiential category(ies) of potentially causally efficacious factual phenomena that may influence human behavior, over and above those phenomena capable of determinate investigation by an objective psychology. Both methodological systems working in close conjunction with one another can, in principle, provide a complete account of human behavior.

4) Finally the basic problem, as we have seen, with the notion of instantaneous temporal durations is that it is simply not reconcilable with the intrinsic nature of direct, concrete experiential events manifesting an inextricable unified atomicity absolutely essential to subjective psychologically meaningful thinking of ANY kind. Thus to formally represent an instantaneously enduring spatial cross-section of a subjective psychological event (apart from the technical impossibility of such a task because of the incessant temporal passage of reality as well as the fact that experiential events are structurally too complex to have their indefinitely numerous components exhaustively symbolically characterized. Thus the illustration is useful only as a discursive device.) is to destroy an essential feature of mental events, namely, that in concrete experience TIME is required to think complete thoughts. The acknowledgement of this point is significant primarily for epistemological reasons, particularly with respect to the issue of VERIFICATION. But also it will be seen that the concept of time as necessarily grounded in experiential events will have great importance for developing future constructs.

5) Since it takes TIME to formulate complete subjective psychologically meaningful thoughts, (and as it was at least suggested in our theory of symbolic thinking) a more careful scrutiny of particular mental events will reveal that beyond their primordial character

as PROCESS AMID PERMANENCE there are DEVELOPMENTAL STAGES (a concept, however, too advanced to be theoretically considered in depth within this discourse) intrinsic to the emergent character of particular events. In effect, this is the wisdom of the relevant past constructively uniting synthetically with the present occasion, hence preparing the way for future cognitive advance.

> The past and the future meet and mingle in the ill defined present. The passage of nature which is only another name for the creative force of existence has no narrow ledge of definite instantaneous present within which to operate. Its operative presence which is now urging nature forward must be sought for throughout the whole, in the remotest past as well as in the narrowest breadth of any present duration. Perhaps also in the unrealized future. Perhaps also in the future which might be as well as the actual future which will be.[111]

Thus mental events, considered in themselves, have stages of development capable of being REFLECTIVELY and experimentally understood to some extent (but are not subject to DIRECT understanding, for an entire event is the minimal unit for our direct comprehension. An interval during the development of an event will be termed a 'stage').

6) From this it can be readily understood that a spatio-temporal framework allowing for only instantaneous specification (i.e., a three dimensional spatio-temporal system) must necessarily be inadequate for characterizing subjective psychological experience for it cannot comprehend the intrinsic durational quality of mental events. This is to say that a spatio-temporal framework is needed which can, in principle, include ALL POSSIBLE EVENT-COMPONENTS as they are actualized throughout developing stages of particular events. To meet this requirement a four-dimensional spatio-temporal framework is needed. Again, our explorations of this mode for comprehending relations among entities will be repetitious

---

[111] Ibid., p. 73.

of certain elementary principles already explored in depth by Whitehead.

In order to effectively introduce the concept of a four-dimensional spatio-temporal framework and properly emphasize the capacity of this geometrical device to attribute appropriate particularity to all possible event-components as they occur in concrete experience, it will be necessary to quote Whitehead at length for it is through his own words that the intrinsic wisdom of such a scheme becomes evident. The following quotations, although written in the first quarter of this century, still have great relevance for contemporary thinking, particularly for those working in the behavioral sciences, or more generally, the human studies, for in these areas the outmoded theories of materialistic mechanism still remain powerfully efficacious in influencing the thinking of many researchers and theorists. Although only a small portion of the following quotations deal specifically with an explication of the geometrical properties of space and time per se, highly important introductory information is expressed. Hence the writer feels that perhaps the most significant objective of this discussion is to present a basic RATIONALE presupposed by a four-dimensional geometry, as opposed to devoting a great deal of attention to technical geometrical considerations. Those individuals wishing to pursue the more formal aspects of space-time should refer to any of Whitehead's earlier works.

Here Whitehead concisely presents a brilliant analysis

of issues of fundamental concern to scientific enquiry of any kind

1. TRADITIONAL SCIENTIFIC CONCEPTS. 1.1. What is a physical explanation? The answer to this question, even when merely implicit in the scientific imagination, must profoundly affect the development of any science, and in as especial degree that of speculative physics. During the modern period the orthodox answer has invariably been couched in terms of Time (flowing equably in measurable lapses) and of Space (timeless, void of activity, euclidean), and of Material in space (such as matter, ether, or electricity).

The governing principle underlying this scheme is that extension, namely extension in time or extension in space, expresses disconnection. This principle issues in the assumptions that the causal action between entities separated in time or space is impossible and that extension in space or unity of being are inconsistent. Thus the extended material (on this view) is essentially a multiplicity of entities which, as extended, are diverse and disconnected. This governing principle has to be limited in respect to extension in time. The same material exists at different times. This concession introduces the many perplexities centering round the notion of change which is derived from the comparison of various states of self-identical material at different times.

1.2. The ultimate fact embracing all nature is (in this traditional point of view) a distribution of material throughout all space at a durationless instant of time, and another such ultimate fact will be another distribution of the same material throughout the same space at another durationless instant of time. The difficulties of this extreme statement are evident and were pointed out even in classical times when the concept first took shape. Some modification is evidently necessary. No room has been left for velocity, acceleration, momentum, and kinetic energy, which certainly are essential physical quantities.

We must therefore in the ultimate fact, beyond which science ceases to analyze, include the notion of a state of change. But a state of change at a durationless instant is a very difficult conception. It is impossible to define velocity without some reference to the past and the future. Thus change is essentially the importation of the past and of the future into the immediate fact embodied in the durationless present instant.

This conclusion is destructive of the fundamental assumption that the ultimate facts of science are to be found at durationless instants of time.

1.3. The reciprocal causal action between materials A and B is the fact that their states of change are partly dependent on their relative locations and natures. The disconnection involved in spatial separation leads to reduction of such causal action to the transmission of stress across the bounding surface of contiguous materials. But what is contact? No two points are in contact. Thus the stress across a surface necessarily acts on some bulk of the material enclosed inside. To say that stress acts on the immediately contiguous material is to assert infinitely small volumes. But there are no such things, only smaller and smaller volumes. Yet (with this point of view) it cannot be meant that the surface acts on the interior.

Certainly stress has some claim to be regarded as an essential physical quantity as have momentum and kinetic energy. But no intelligible account of its meaning is to be extracted from the concept of the continuous distribution of diverse (because extended) entities through space as an ultimate scientific fact. At some stage in our account of stress we are driven to the concept of any extended quantity of material as a single unity whose nature is partly explicable in terms of its surface stress.

1.4. In biology the concept of an organism cannot be expressed in terms of material distribution at an instant. The essence of an organism is that it is one thing which functions and is spread through space. Now functioning takes time. Thus a biological organism is a unity with a spatio-temporal extension which is the essence of its being. This biological conception is obviously incompatible with the traditional ideas. This argument does not in any way depend on the assumption that biologival phenomena belong to a different category to other physical phenomena. The essential point of the criticism on traditional concepts which has occupied us so far is that the concept of unities, functioning and with spatio-temporal extensions cannot be extruded from physical concepts. The only reason for the introduction of biology is that in these sciences the same necessity becomes more clear.

1.5. The fundamental assumption to be elaborated in the course of this enquiry is that the ultimate facts of nature, in terms of which all physical and biological explanation must be

expressed, are events connected by their spatio-temporal relations, and that these relations are in the main reducible to the property of events that they can contain (or extend over) other events which are parts of them. In other words, in place of emphasizing space and time in their capacity of disconnecting, we shall build up an account of their complex essences as derivative from the ultimate ways in which those things, ultimate in a science, are interconnected. In this way the data of science, those concepts in terms of which all scientific explanation must be expressed, will be clearly apprehended. But before proceeding to our constructive task, some further realisation of the perplexities introduced by the traditional concepts is necessary.

2. PHILOSOPHIC RELATIVITY. 2.1. The philosophical principle of the relativity of space means that the properties of space are merely a way of expressing relations between things ordinarily said to be 'in space'. Namely, when two things are said to be 'both in space' what is meant is that they are mutually related in a certain definite way which is termed 'spatial'. It is an immediate consequence of this theory that all spatial entities such as points, straight lines and planes are merely complexes of relations between things or of possible relations between things.

For consider the meaning of saying that a particle P is at a point Q. This statement conveys substantial information and must therefore convey something more than the barren assertion of self-identity 'P is P'. Thus what must be meant is that P has certain relations to other particles P', P", etc., and that the abstract possibility of this group of relations is what is meant by the point Q.

The extremely valuable work on the foundations of geometry produced during the nineteenth century has proceeded from the assumption of points as ultimate given entities. This assumption, for the logical purpose of mathematicians, is entirely justified. Namely the mathematicians ask, What is the logical description of relations between points from which all geometrical theorms respecting such relations can be deduced? The answer to this question is now practically complete; and if the old theory of absolute space be true, there is nothing more to be said. For points are ultimate simple existents, with mutual relations disclosed by our perceptions of nature.

But if we adopt the principle of relativity, these investigations do not solve the question of the foundations of geometry. An investigation

into the foundations of geometry has to explain space as a complex of relations between things. It has to describe what a point is, and has to show how the geometric relations between points issue from the ultimate relations between ultimate things which are the immediate objects of knowledge. Thus the starting point of a discussion on the foundations of geometry is a discussion of the character of the immediate data of perception. It is not now open to mathematicians to assume SUB SILENTIO that points are among these data.

2.2. The traditional concepts were evidently formed round the concept of absolute space, namely the concept of the persistent ultimate material distributed among the persistent ultimate points in successive configurations at successive ultimate instants of time. Here 'ultimate' means 'not analysable into a complex of simpler entities'. The introduction of the principle of relativity adds to the complexity -- or rather, to the perplexity -- of this conception of nature. The statement of general character of ultimate fact must now be amended into 'persistent ultimate material with successive mutual ultimate relation at successive ultimate instants of time'.

Space issues from these mutual relations of matter at an instant. The first criticism to be made on such an assertion is that it is shown to be a metaphysical fairy tale by any comparison with our actual perceptual knowledge of nature. Our knowledge of space is based upon observations which take time and have to be successive, but the relations which constitute space are instantaneous. The theory demands that there should be an instantaneous space corresponding to each instant, and provides for no correlations between these spaces; while nature has provided us with no apparatus for observing them.

2.3. It is an obvious suggestion that we should amend our statement of ultimate fact, as modified by the acceptance of relativity. The spacial relations must now stretch across time. Thus if P, P', P", etc. be material particles, there are definite spatial relations connecting P, P', P", etc. at time t_1 with P, P', P", etc. at t_2, as well as such relations between P and P' and P", etc. at time t_1 and such relations between P and P' and P", etc. at time t_2. This should mean P at time t_2 has a definite position in the spatial configuration constituted by the relations between P, P', P", etc. at t_1. For example, the sun at a certain instant on Jan. 1st, 1900 had a definite position in the instantaneous space constituted by the mutual relations between the

sun and the other stars at a definite instant on Jan. 1st, 1800. Such a statement is only understandable (assuming the traditional concept) by recurring to absolute space and thus abandoning relativity; for otherwise it denies the completeness of the instantaneous fact which is the essence of the concept. Another way out of the difficulty is to deny that space is constituted by the relations of P, P', P", etc., at an instant, and to assert that it results from their relations throughout a duration of time, which as thus prolonged in time are observable.

As a matter of fact it is bovious that our knowledge of space does result from such observations. But we are asking the theory to provide us with actual relations to be observed. This last emendation is either only a muddled way of admitting that 'nature at an instant' is not the ultimate scientific fact, or else it is a yet more muddled plea that, although there is no possibility of correlations between instantaneous spaces, yet within durations which are short enough such nonexistent correlations enter into experience.

2.4. The persistence of the material lacks any observational guarantee when the relativity of space is admitted into the traditional concept. For at one instant there is instantaneous material in its instantaneous space as constituted by its instantaneous relations, and at another instant there is instantaneous material in its instantaneous space. How do we know that the two cargoes of material which load the two instants are identical? The answer is that we do not perceive isolated instantaneous facts, but a continuity of existence, and that it is this observed continuity of existence which guarantees the persistence of material. Exactly so; but this gives way the whole traditional concept. For a 'continuity of existence' must mean an unbroken duration of existence. Accordingly it is admitted that the ultimate fact for observational knowledge is perception through a duration; namely, that the content of a specious present, and not that of a durationless instant, is an ultimate datum for science.

2.5. It is evident that the conception of the instant of time as an ultimate entity is the source of all our difficulties of explanation. If there are such ultimate entities, instantaneous nature is an ultimate fact.

Our perception of time is as a duration, and these instants have only been introduced by reason of a supposed necessity of thought. In fact absolute time is just as much a metaphysical

monstrosity as absolute space. The way out of the perplexities, as to the ultimate data of science in terms of which physical explanation is ultimately to be expressed, is to express the essential scientific concepts of time, space and material as issuing from fundamental relations between events and from recognitions of the characters of events. These relations of events are those immediate deliverances of observation which are referred to when we say that events are spread through time and space.[112]

'Significance' is the relatedness of things. To say that significance is experience, is to affirm that perceptual knowledge is nothing else than an apprehension of the relatedness of things, namely of things in their relations and as related. Certainly if we commence with a knowledge of things, and then look around for their relations we shall not find them. 'Causal connection' is merely one typical instance of the universal ruin of relatedness. But then we are quite mistaken in thinking that there is a possible knowledge of things as unrelated. It is thus out of the question to start with a knowledge of things antecedent to a knowledge of their relations. The so-called properties of things can always be expressed as their relatedness to other things unspecified, and natural knowledge is exclusively concerned with relatedness.

3.6. The relatedness which is the subject of a natural knowledge cannot be understood without reference to the general characteristics of perception. Our perception of natural events and natural objects is a perception from within nature, and is not an awareness contemplating all nature impartially from without. When Dr. Johnson 'surveyed mankind from China to Peru', he did it from Pump Court in London at a certain date. Even Pump Court was too wide for his peculiar LOCUS STANDI; he was really merely conscious of the relations of his bodily events to the simultaneous events throughout the rest of the universe. Thus perception involves a percipient object, a percipient event, the complete event which is all nature simultaneous with the percipient event, and the particular events which are perceived as parts of the complete event.... The point here to be emphasized is that natural knowledge is a knowledge from within nature, a knowledge 'here within nature' and 'now within nature', and is an

---

[112] Whitehead, An Enquiry..., op. cit., pp. 1-6.

awareness of the natural relations of one element in nature (namely, the percipient event) to the rest of nature. Also what is known is not barely the things but the relations of things, and not the relations in the abstract but specifically those things as related.

Thus Alciphron's vision of the planet is his perception of his relatedness (i.e., the relatedness of his percipient event) to some other elements of nature which as thus recalled he calls the planet. He admits... that certain other specified relations of those elements are possible for other percipient events. In this way he might be right or wrong. What he directly knows is his relation to some other elements of the universe -- namely, I, Alciphron, am located in my percipient event 'here and now' and the immediately perceived appearance of the planet is for me a characteristic of another event 'there and now'. In fact perceptual knowledge is always a knowledge of the relationship of the percipient event to something else in nature. This doctrine is in entire agreement with Dr. Johnson's stamp of the foot by which he realised the otherness of the paving-stone.

3.7. The conception of knowledge as passive contemplation is too inadequate to meet the facts. Nature is ever originating its own development, and the sense of action is the direct knowledge of the percipient event as having its very being in the formation of its natural relations. Knowledge issues from this reciprocal insistence between this event and the rest of nature, namely relations are perceived in the making and because of the making. For this reason perception is always at the utmost point of creation. We cannot put ourselves back to the Crusades and know their events while they were happening. We essentially perceive our relations with nature because they are in the making. The sense of action is that essential factor in natural knowledge which exhibits it as a self-knowledge enjoyed by an element of nature respecting its active relations with the whole of nature in its various aspects. Natural knowledge is merely the other side of action. The forward moving time exhibits this characteristic of experience, that it is essentially action. Thus passage of nature -- or, in other words, its creative advance -- is its fundamental characteristic; the traditional concept is an attempt to catch nature without its passage.[113]

---

[113] Ibid., pp. 12-14.

In these quotations Whitehead critically analyzes the logical implications of certain fundamental presuppositional concepts used predominately in traditional Newtonian science. He shows that the spatio-temporal DISCONNECTIVE proclivity of mechanistic materialism leads to very serious logical and pragmatic difficulties. Hence to resolve some of these theoretical and methodological problems indigenous to traditional materialism, Whitehead maintains that a more appropriate theoretical framework for science, one demonstrating considerably greater concordance with the facts ascertained in concrete experience, is that the perceived facts of nature must be considered as events CONNECTED by spatio-temporal relations and that these relations are directly derivative from the factual properties of events. "... in the place of emphasizing space and time in their capacity of disconnecting, we shall build up an account of their complex essences as derivatives from the ultimate ways in which those things, ultimate in science, are interconnected." Thus these lengthy quotations have emphasized three very important considerations for us. First, they have provided a concise, but penetrating, account of fundamental conceptual shifts in contemplating certain primitive or axiomatic presuppositions of science in the twentieth century. Second, and this point is a consequent of the first, we have seen that the 'relativity' conception of space-time is importantly more in accordance with the directly perceived facts in our concrete experience, as compared to the 'materialistic' view of the universe.

Third, the quotations have served as a useful recapitulation for many concepts developed throughout this discourse, in addition to providing a brief though highly appropriate introduction to the relativity notion of space-time.

Now let us once again embark upon a more rigorous investigation of space-time and its relevant peripheral issues as they will have direct significance for a subjective psychology. As in the immediately preceding instances, we shall utilize Whitehead's own words to effect this explanation for in this way we may be assured of maximal conceptual and definitional clarity.

The following quotations suggest in a general way how what we have defined as event-components may be spatio-temporally related in each mental event /our definition of 'event' as used here is conceptualized somewhat differently than that of Whitehead's; our notion includes, in addition, those percepta "standing over against" the 'contributed' percepta as they are directly perveived in determinate configurations. The 'contributed' percepta, considered alone, are equivalent to what Whitehead will term the 'prehensive unity' of perception (as distinct from what he defines as prehensive unity of a volume)7:

> For simplicity of thought, I will first speak of space only, and will afterwards extend the same treatment to time.
>
> The volume is the most concrete element of space. But the separative character of space, analyses a volume into sub-volumes, and so on indefinitely. Accordingly, taking the separative character in isolation, we should infer that a volume is a mere multiplicity of non-voluminous elements, of points in fact. But it is the

unity of the volume which is the ultimate fact of experience, for example, the voluminous space of this hall. This hall as a mere multiplicity of points is a construction of the logical imagination.

Accordingly, the prime fact is the prehensive unity of volume, and this unity is mitigated or limited by the separated unities of the innumerable contained parts. We have a prehensive unity, which is yet held apart as an aggregate of contained parts. But the prehensive unity of the volume is not the unity of a mere logical aggregate of parts. The parts form an ordered aggregate, in the sense that each part is something from the standpoint of every other part, and also from the same standpoint every other part is something in relation to it. Thus if A and B and C are volumes of space, B has an aspect from the standpoint of A, and so has C, and so has the relationship of B and C. This aspect of B from A is of the essence of A. The volumes of space have no independent existence. They are only entities as within the totality; you cannot extract them from their environment without destruction of their very essence. Accordingly, I will say that the aspect of B from A is the MODE in which B enters into the composition of A. This is the modal character of space, that the prehensive unity of A is the prehension into unity of the aspects of all other volumes from the standpoint of A. The shape of the Volume is the formula from which the totality of its aspects can be derived. Thus the shape of a volume is more abstract than its aspects. It is evident that I can use Leibniz's language, and say that every volume mirrors in itself every other volume in space.

Exactly analogous considerations hold with respect to durations in time. An instant of time, without duration, is an imaginative logical construction. Also each duration of time mirrors in itself all temporal durations.

But in two ways I have introduced a false simplicity. In the first place, I should have conjoined space and time, and conducted by explanation in respect to four-dimensional regions of space-time. I have nothing to add in the way of explanation. In your minds, substitute such four-dimensional regions for the spatial volumes of the previous explanations.

Secondly, my explanation has involved itself in a vicious circle. For I have made the prehensive unity of the region A to consist of the prehensive unification of the modal presences in A of other regions. This difficulty arises because space-

> time cannot in reality be considered as a self-subsistent entity. It is an abstraction, and its explanation requires reference to that from which it has been extracted. Space-time is the specification of certain general characters of events and of their mutual ordering.[114]

It should be noted that in the second anticipated criticism expressed by Whitehead, he is saying that a distinction must be drawn between the prehensive unification located in the (percipient, for example) region A, consisting of a specific configuration of modal presences actualized in A at a given time, AND those frames of reference (viz., stimulus-objects or termini of sense awareness) from which the modal presences originate. Stated more simply, in order to avoid the sollipsistic view of subjective idealism, Whitehead must prove that the natural world, apart from mind's perceptions, has spatio-temporal extensiveness. He must show that there is an external world whose entities can be comprehended in a relativity spatio-temporal framework. Although the following quotation does not embody a rigorous proof for the existence of the external world -- a type which can be found in almost any of Whitehead's works -- it is quite suitable for our purpose in that it provides the reader with a more intuitively simple illustration of his spatio-temporal scheme, for it is not specifically our purpose to prove the spatio-temporal extensiveness of the natural world.

> An entity of which we become aware in sense perception is the terminus of our act of percep-

---

[114] Whitehead, Science and Modern..., op. cit., pp. 63-64.

tion. I will call such an entity, a SENSE-OBJECT. For example, green of a definite shade is a sense-object; so is a sound of a definite generality and pitch; and so is a definite scent; and a definite quality of touch. The way in which such an entity is related to space during a definite lapse of time is complex. I will say that a sense-object has INGRESSION into space-time. The cognitive perception of a sense object is the awareness of prehensive unification (into standpoint A) of various modes of various sense-objects, including the sense-object in question. The standpoint of A is, of course, a region of space-time; that is to say, it is a volume of space through a duration of time. But as one entity, this standpoint is a unit of realised experience. A mode of a sense object at A (as abstracted from the sense object whose relationship to A the mode is conditioning) is an aspect from A of some other region B. Thus the sense-object is present in A with the mode of location in B. Thus if green be the sense-object in question, green is not simply at A where it is being perceived, nor is it simply at B where it is perceived as located; but it is present at A with the mode of location in B. There is no particular mystery about this. You have only got to look in a mirror and to see the image in it of some green leaves behind your back. For you at A there will be green; but not green simply at A where you are. The green at A will be green with the mode of having location at the image of the leaf behind the mirror. Then turn round and look at the leaf. You are now perceiving the green in the same way as you did before, except that now the green has the mode of being located in the actual leaf. I am merely describing what we do perceive: we are aware of green as being one element in a prehensive unification of sense objects; each sense-object, and among them green, having its particular mode, which is expressible as location elsewhere. There are various types of modal location. For example, sound is voluminous: it fills a hall, and so sometimes does diffused colour. But the modal location of a colour may be that of being the remote boundary of a volume, as for example is the locus of the modal ingression of sense-objects. This is the reason why space and time (if for simplicity we disjoin them) are given in their entireties. For each volume of space, or each lapse of time, includes in its essence aspects of all volumes of space, or of all lapses of time. The diffi-culties of philosophy in respect to space and time are founded on the error of considering them as

primarily the loci of simple locations. Perception is simply the cognition of prehensive unification; or more shortly, perception is cognition of prehension. The actual world is a manifold of prehensions; and a 'prehension' is a 'prehensive occasion'; and a prehensive occasion is the most concrete finite entity, conceived as what it is in itself and for itself and not as from its aspect in the essence of another such occasion. Prehensive unification might be said to have simple location in its volume A. But this would be a mere tautology. For space and time are simply abstractions from the totality of prehensive unification as mutually patterned in each other. Thus a prehension has simple location at the volume A in the same way as that in which a man's face fits on to the smile that spreads over it. There is, so far as we have gone, more sense in saying that an act of perception has simple location; for it may be conceived as being simply the cognised prehension.

There are more entities involved in nature than the mere sense-objects, so far considered. But allowing for the necessity of revision consequent on a more complete point of view, we can frame our answer to Berkeley's question as to the character of reality to be assigned to nature. He states it to be the reality of ideas in the mind. A complete metaphysic which has attained to some notion of mind, and to some notion of ideas, may perhaps ultimately adopt that view. It is unnecessary for the purposes of these lectures to ask such a fundamental question. We can be content with a provisional realism in which nature is conceived as a complex of prehensive unifications. Space and time exhibit the general scheme of interlocked relations of these prehensions. You cannot tear any of them out of its context. Yet each one of them within its context has all the reality that attaches to the whole complex. Conversely, the totality has the reality as each prehension; for each prehension unifies the modalities to be ascribed, from its standpoint, to every part of the whole. A prehension is a process of unifying. Accordingly, nature is a process of expansive development, necessarily transitional from prehension to prehension. What is achieved is thereby passed beyond, but it is also retained as having aspects of itself present to prehensions which lie beyond it.

Thus nature is a structure of evolving processes. The reality is the process. It is nonsense to ask if the colour red is real. The colour red is ingredient in the process of

> realisation. The realities of nature are the prehensions in nature, that is to say, the events in nature.[115]

Little need be said about the lucidity and profoundity of this quotation except, perhaps, that the highly intimate relationship between what Whitehead has said in the above quotations and the various lines of argumentation we have explored throughout this discourse (although beginning from different points of departure and with somewhat different purposes in view) should be readily obvious to the reader.

Next, building upon the foundational concepts already introduced with regard to space-time and its relationship to human experience, let us briefly consider two additional abstract conceptualizations of this problem as they are formally developed by Whitehead. The purpose of this somewhat more advanced investigation is to suggest to those readers predisposed to formal scientific enquiry that the general theory of subjective psychological behavior being developed in this paper is readily amenable to rigorous formulation.

First let us contemplate one way in which Whitehead geometrically schematizes the four-dimensional structure of events (here emphasis will be placed upon what we have termed 'mental event' which closely approximates Whitehead's notion of thinking 'heterogeneously' about nature: "... we are thinking heterogeneously about nature when we are thinking about it in conjunction with thinking either

---

[115] Ibid., pp. 68-70.

about thought or about sense-awareness or about both.[116]).

(i) THE STRUCTURE OF THE CONTINUUM OF EVENTS

This structure is four-dimensional, so that any event is a four-dimensional hyper-volume in which time is the fourth dimension. But we should not conceive an event as space and time, but as a unit from which space and time are abstracts.

An event with all its dimensions ideally restricted is called an 'event particle', and an event with only one dimension of finite extension is called a 'route' or 'path'. I will not in this lecture discuss the meaning of this ideal restriction. I have investigated it elsewhere under the name of 'extensive abstraction'.

The structure is uniform because of the necessity for knowledge that there be a system of uniform relatedness, in terms of which the contingent relations of natural factors can be expressed. Otherwise we can know nothing until we know everything. If P be any event-particle, a moment through P is a system of event-particles representing all nature instantaneously contemporaneous with P. According to the classical view of time there can be only one such moment. According to the modern view there can be an indefinite number of alternative moments through P, each corresponding to a different meaning for time and space. A moment is an instantaneous three-dimensional section of nature and is the entity indicated when we speak of a moment of time.

The aggregate of event-particles lying on moments through P will be called the region co-present with P. The remainder of the four-dimensional continuum is divided by the co-present into two regions, one being P's past and the other being P's future. The three-dimensional boundary between P's past and P's co-present region is P's causal past, and the corresponding boundary between P's future and P's co-present region is P's causal future. The remaining portion of P's future is P's kinematic future.

A route lying entirely in one moment is called a spatial route, and a route which lies entirely in the past and future of each one of its event-particles is called a historical route.

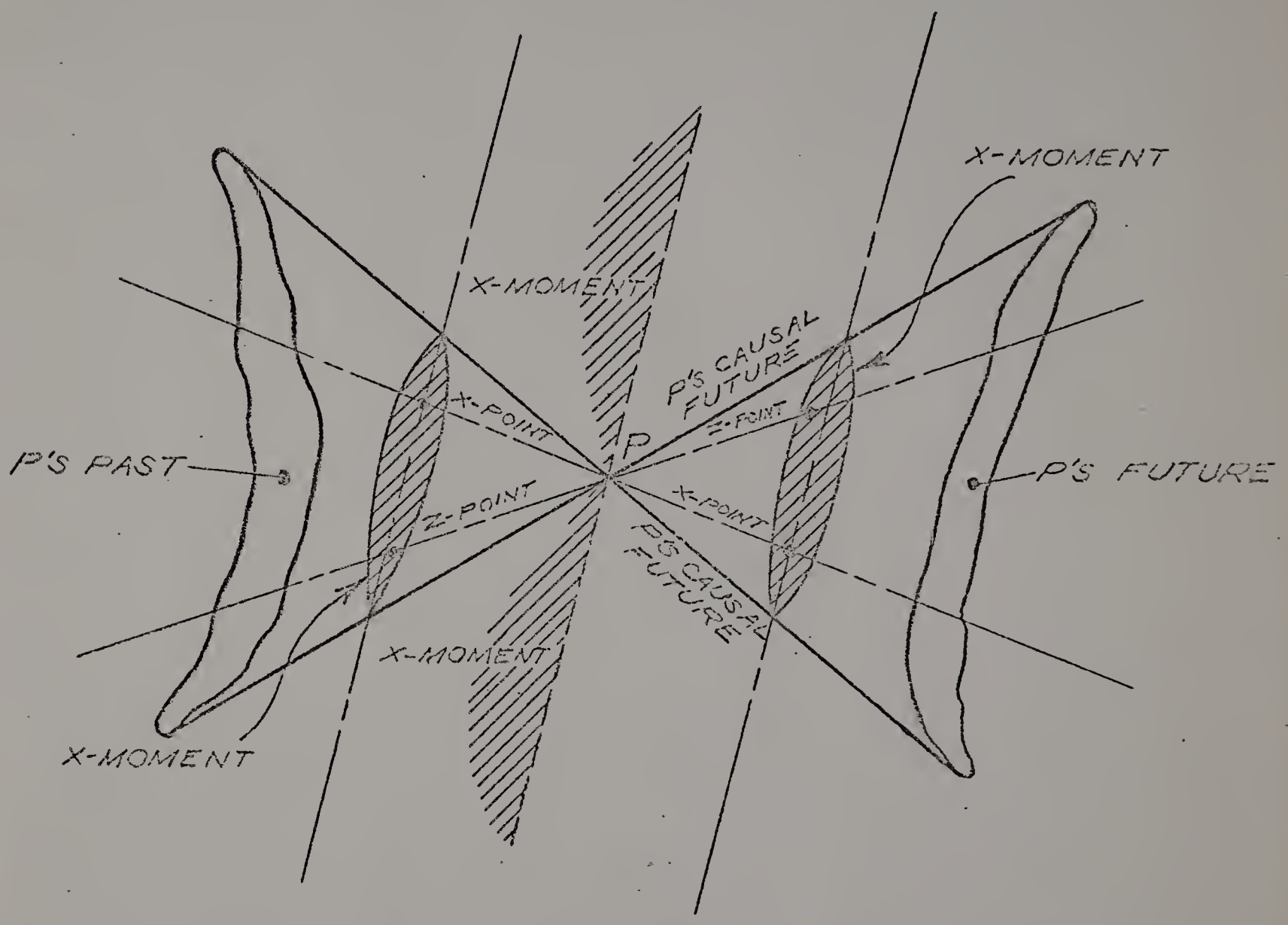
... We gain great simplicity of explanation, without loss of any essential considerations by confining our consideration of events to routes.

---

[116] Whitehead, Concept of..., op. cit., p. 5.

These routes are of course not true events, but merely ideal limits with only one dimensional extension remaining.

FIGURE 5



117

Although this quotation provides an inadequate exposition of the highly systematic formalized meaning implicit within the bare geometric construction presented above, a task that is largely executed in the third through fifth chapters of Whitehead's Concept of Nature, it at least presents sufficient elaboration (which if contemplated in conjunction with

---

[117] Whitehead, Principle of..., op. cit., pp. 29-31.

the previous exerpts from his writings on space and time) to suggest the great possibilities for expressing relations delivered initially in concrete experience in mathematical and geometrical form.

This last quotation concisely demonstrates how spatio-temporal abstract relations can be formally expressed as direct derivatives from concrete experience. Here Whitehead takes concrete external bodily perceptual apprehensions such as, for example, the apparent three-dimensionality of our momentary spatial perceptions and proceeds to demonstrate how the "appearance of depth" can be geometrically formalized. From this type of exposition geometric proofs may be proposed for certain fundamental concepts of measurement such as simultanaiety, parallelity, perpendicularity, etc. The important point, however, is that these proofs may be shown to proceed from our concrete experiential perceptions of natural world phenomena.

> When we are conscious of nature, what is it that we really observe? The obvious answer is that we perceive various material bodies, such as chairs, bricks, trees. We can touch them, see them, hear them. As I write I can hear the birds singing in a Berkshire garden in early spring.
>
> In conformity with this answer, it is now fashionable and indeed almost universal to say that our notions of space merely arise from our endeavours to express the relations of these bodies to each other. I am sorry to appear pigheaded; but, though I am nearly in a minority of one, I believe this answer to be entirely wrong. I will explain my reasons.
>
> Are these material bodies really the ultimate data of perception, incapable of further analysis?
>
> If they are, I at once surrender. But I submit that plainly they have not this ultimate character. My allusions to birds singing was made not because I felt poetical, but to warn you

that we were being led into a difficulty. What I immediately heard was the song. The birds only enter perception as a correlation of more ultimate immediate data of perception, among which for my consciousness their song is dominant.

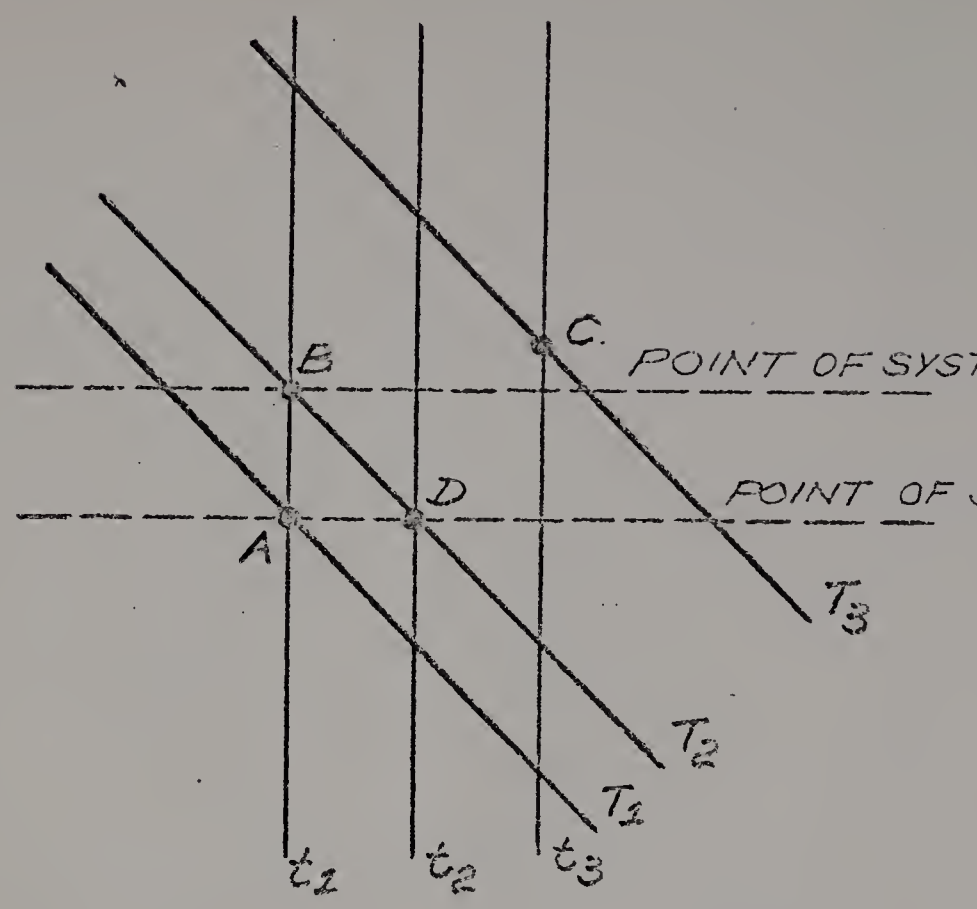
Material bodies only enter my consciousness as a representation of a certain coherence of the sense-objects such as colors, sounds and touches. But these sense-objects at once proclaim themselves to be adjectives... of events. It is not the mere red that we see, but a red patch in a definite place enduring through a definite time. The red is an adjective of the red time and place. Thus nature appears to us as the continuous passage of instantaneous three-dimensional spatial spreads, the temporal passage adding a fourth dimension. Thus nature is stratified by time. In fact passage in time is of the essence of nature, and a body is merely the coherence of adjectives qualifying the same route through the four-dimensional space-time of events.

But as a result of modern observations we have to admit that there are an indefinite number of such modes of time stratification.

However, this admission at once yields an explanation of the meaning of the instantaneous spatial extension of nature. For it explains this extension as merely the exhibition of the different ways in which simultaneous occurrences function in regard to other time-systems.

I mean that occurrences which are simultaneous for one time-system appear as spread out in three dimensions because they function diversely for other time-systems. The extended space of one time-system is merely the expression of properties of other time-systems.

FIGURE 6



According to this doctrine, a moment of time is nothing else than an instantaneous spread of nature. Thus let t_1, t_2, t_3 be three moments of time according to one time-system, and let T_1, T_2, T_3 be three moments of time according to another time-system. The intersections of pairs of moments in diverse time-systems are planes in each instantaneous three-dimensional space. In the diagram each continuous line accordingly symbolises a three-dimensional space; and the intersections of continuous lines, such as A or B or C, symbolises planes. Thus t_1 and T_2 are each a three-dimensional space, and A is a plane in either space.

Parallelism is the reflection into an instantaneous space of one time-system of the property of moments of some other system. Thus A and B are parallel planes in t_1, since T_1 and T_2 are moments of the same system which is not the system to which t_1 belongs.

But when we talk of space we are not usually thinking of the instantaneous fact of immediate perception. We are thinking of an enduring scheme of extension within which all these instantaneous facts are fitted. It follows that we ought to be able to find a meaning for the idea of a permanent space in connection with each time-system.

This conception must arise from our immediate observations of motion and rest. Both rest and motion have no meaning in connection with one mere instantaneous space. In such a space everything is where it is and there is an instantaneous end to it: to be succeeded by another instantaneous space. But motion and rest at once warn us that our perception involves something more.

The instantaneous moment is merely an ideal limit of perception. Have you ever endeavoured to capture the instantaneous present? It eludes you, because in truth there is no such entity among the crude facts of our experience. Our present experience is an enduring fact within which we discriminate a passage of nature. Now within this enduring fact we observe rest and motion. A body at rest in the space of our observation is tracing out a certain historical route intersecting the moments of our time-system in a sequence of instantaneous points. This route is what we mean by a point of the permanent space of our time-system. Thus each time-system has its own space with its own points, and these permanent points are loci of instantaneous points.

The paradoxes of relativity arise from the fact that we have not noticed that when we change our time-system we change the meaning of time, the meaning of space and the meaning of points of space (conceived as permanent).

Now the route of a small body at rest in the space of a time-system, that is to say, a point of that time-system, has a certain symmetry in respect to the successive instantaneous spaces of that system, which is expressed for us by the perception of lack of change of position. This symmetry is the basis of the definition of rectangularity.

If the body be at rest in the space of the time-system t, it is moving in a straight line in the space of another time-system T. This permanent straight line intersects any moment of T, say T_1, in an instantaneous straight line l_1 (say). Then l_1 is perpendicular to the series of instantaneous parallel planes in which the moments of system t intersect T_1. In other words the planes to which motion is perpendicular are the planes of intersection with the moments of that time-system for whose space and motion would be represented as rest.

We have thus defined both parallelism and perpendicularity without reference to congruence, but in terms of immediate data of perception. Furthermore, the parallelism of the moments of one time system enables us to extend parallelism

> to time as also expressing the relation to each other of permanent points of the same time-system. It thus follows that we now possess a structure in terms of which congruence can be defined. This means that there will be a class of qualities L one and only one of which attaches to any stretch on a straight line or on a point, such that matching in respect to this quality is what we mean by congruence.[118]

This completes our sequence of quotations about space-time articulated in various works by Whitehead. Again as it was previously mentioned, the writer makes no pretense that an exhaustive understanding of these quotations can be achieved merely through studying the relevant information on space-time presented in this discourse. To achieve this end would require a meticulous and laborious examination of the original source materials. However, even with the limitations of the method of introduction, the writer feels that readers can, through a reflective effort, gain a substantial understanding of Whitehead's criticisms of traditional concepts of space and time, and the limitations and even distortions of concrete experiential facts that traditional materialistic-mechanistic theories impose upon our direct experience of the natural world and our inner bodily states. In fact, it is not over-stating the case to maintain that it is an understanding the importance and hence NECESSITY of admitting the fourth (e.g., temporal) dimension into our spatio-temporal characterization of mental events -- theoretical units logically and experientially fundamental to a subjective psychology. This fact

---

[118] Ibid., pp. 53-57.

clearly reveals the primary reason for devoting prolonged attention to scrutinizing Whitehead's basic views on space and time. Also, it is not too much to say that all of Whitehead's discursive examinations of these concepts, regardless of the advanced nature of some of his speculative investigations, are essentially attempts to systematically show that all spatio-temporal conceptual formulations ultimately have their grounds in the perceptions of concrete experience.

The quotations examined with respect to space and time were primarily concerned with explaining the basis upon which the relations amongst NATURAL entities may be validly (formally) established. But for our purposes we also are interested in exploring some fundamental considerations involved in ascertaining possible relations among directly accessible event-components that collectively constitute complete unified durations of subjective psychological experience. If we are to take Whitehead's general notion of an event (here conceived as thinking 'homogeneously' about any given natural or bodily occurrence) defined as, "Wherever and whenever something is going on",[119] then it must be conceded that such phenomena as ideas, for example, are events. Hence ideas, now conceived in our dipolar conception of mind, has been proven to have a "substantial" intrinsic nature defined as disciplined ideational feeling. Further, we have seen that all ideational states have a

---

[119] Whitehead, Concept of..., op. cit., p. 78.

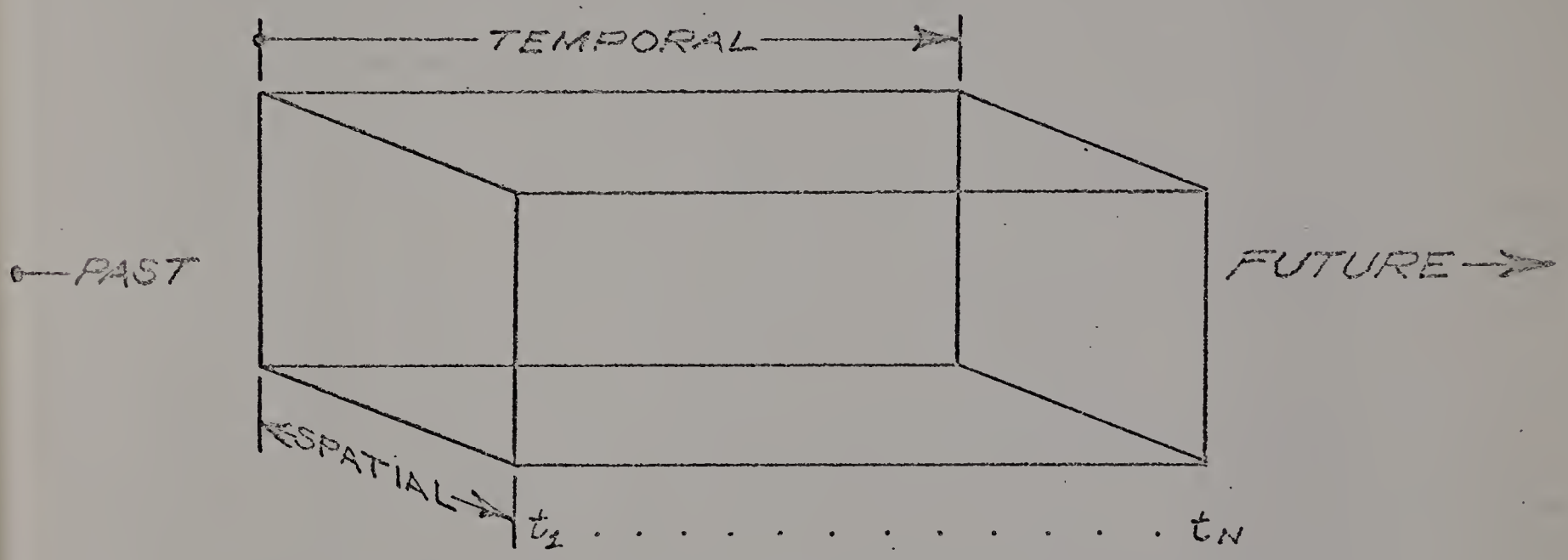
universal form theoretically characterized as the LOGICAL FORM of subjective psychological experience, generally comprised of perceptual 'contributions' from stimulus-objects concomitantly actualized with denotative and connotative symbolic meaning. Therefore, since individual thoughts, regardless of their intellectual content, occur as complete units of meaning, they can be conceived as particular events that embody a logical form. Since the actualization of subjective psychological events occurs throughout temporal durations, and because such events are comprised of event-components ascertained through exercising a reflective effort, it is possible to (directly) consciously locate and hence formally RELATE these components within a four dimensional spatio-temporal scheme. In this way mental events occurring within individuals can be spatio-temporally related to any other relevant components of reality whether located within or externally from the individual's bodily organism, and in addition, analyzed according to their uniquely human developmental stages of origination. Let us now discuss some of the elementary considerations regarding this schematism.

In figure 5 Whitehead suggests a model in which an event (now conceived as thinking homogeneously about nature) can be ideally restricted, for the purposes of natural sciences, to a single mathematical point, and that the point abstractly conceived in this way can be contemplated in terms of their spatial and temporal routes, as these routes must be determined in conjunction with other

relevant spatially and temporally separated entities. This idealized restriction does not, however, entail a distortion of the directly observable facts of nature as they have importance for the natural sciences because certain quantitative attributes of natural entities remain FORMALLY constant regardless of the extent to which restriction is effected. The arguments supporting this assertion are presented, as it was mentioned, in the third through fifth chapters of Whitehead's Concept of Nature. But it must be kept in mind that his concern is primarily with demonstrating that the mathematical and statistical procedures for establishing certain relations among theoretical entities of the natural sciences are, in fact, capable of being derived from the perceptual deliverances of the natural world if we admit the relativity conception of space-time, a notion which is itself ultimately an abstract derivative from the intrinsic nature of concrete experience. However, our interest in four-dimensional space-time is primarily with the fact that it provides us with a theoretical framework in which the relevant relations manifested among (in principle) all possible event-components CONSTITUTING PARTICULAR MENTAL EVENTS can be ascertained as they evolve throughout temporal durations. Thus our center of interest is presently focused upon the intrinsic universal structure of mental events as atomic ENTITIES in distinction from Whitehead's principal concern (in the quotations cited) which is in demonstrating the necessary RELATEDNESS among entities as a FACT directly perceived in concrete

experience. Therefore, instead of representing mental events as particular mathematical points (i.e., event particles) as in figure 5, we shall characterize them as four-dimensional rectangular solids in which event-components can be related to one another in their modes of emergence throughout given temporal durations. The model can be simply illustrated in the following way:

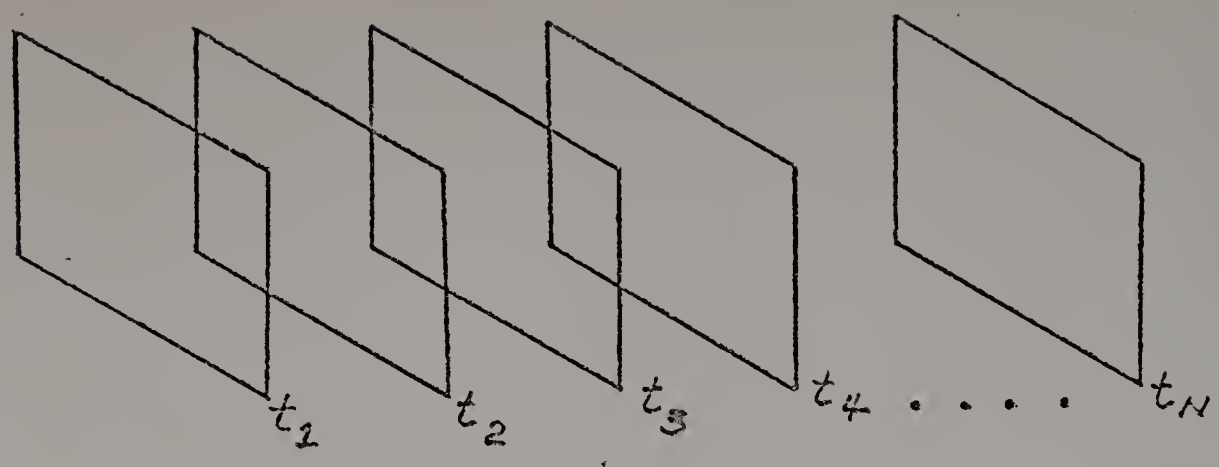
FIGURE 7



A COMPLETE 4-DIMENSIONAL SPECIFICATION OF AN ATOMIC UNIT OF SPACE-TIME

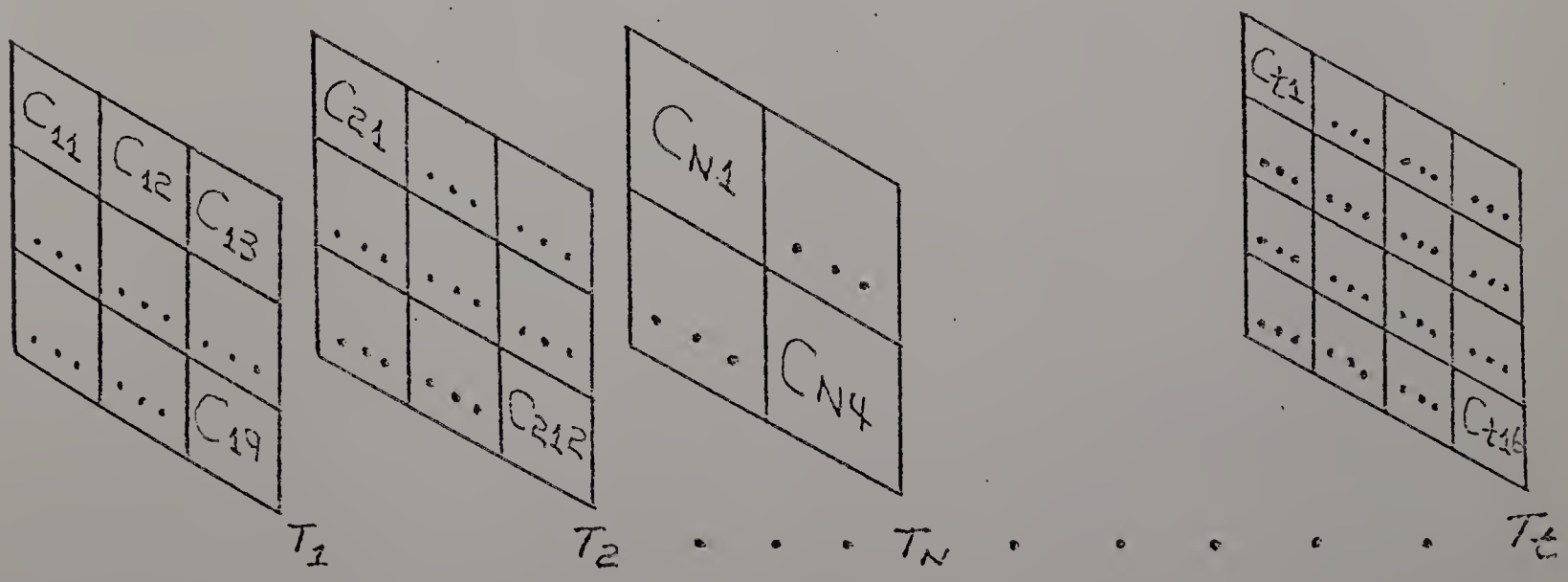
From the four-dimensional schmatism, three dimensional slices of theoretically restricted spatial moments can be abstracted in thought. It will be recalled that these spatial routes have instantaneous duration. Thus

FIGURE 8



Abstracted spatial routes may be used for specifying given reflectively ascertainable event-components constituting a moment in order to systematically study the relations among event-components within given events, and between mental events (i.e., as mental events occur in relation to stimulus-objects located in the natural world or the percipient's bodily organism). NUMERICAL EQUIVALENTS of event-components occurring at given moments can be specified as follows:

FIGURE 9



It should be mentioned that, in principle, all possible event-components capable of spatio-temporal specification, apart from their unique mode of ingression, are elements of

THE CATEGORIES. Also it is not difficult to see that from this very simple four-dimensional spatio-temporal framework, considered in conjunction, for example, with such elaborate systems as Whitehead's geometrical and mathematical schemes, a great many variations from this basic model can be formulated in subjective psychological research. This completes our systematic analysis of the concept of an 'event'; we have seen that the four-dimensional schematism offers the greatest possibility for rigorously ascribing particularity to all conceivable concrete components of human experience.

Section 4

The task to be undertaken in this section is to initially reconsider certain previously introduced constructs developed to systematically define mind, and then submit them to moderate revision. In doing this we shall in effect be enhancing our understanding of originally formulated constructs through elucidating certain additionally important implications of the concrete experiential components that they represent. This constructive possibility arises from the fact that concrete experience is more extensively complex than human intellect's ability to subject it to exhaustive exposition.

Heretofore we have been using a definition of mind simply defined as 'percepta concomitantly coming constructively to bear upon other percepta'. From our previous discussion it is readily apparent that this deceptively

elementary definition has an indeterminate number of ramifications. But apart from this, its great utility results from the fact that it demonstrates an important principle fundamental to our entire discussion on developing a concept of mind as it issues from the structure of directly perceived subjective psychological experience. Basically this principle necessitates that mind be regarded as "more" than a refined compounding of sense data that originate from the natural world and as organic bodily feeling. It accentuates the fact that EMOTION, and more specifically, HIGHLY DISCIPLINED SYMBOLIC EMOTION (ideational feeling) is also a crucial factor in constructively generating human thought. Thus beyond the sensory deliverance of percepta testifying to the sheer contemporaneity of the natural world and states of pure organic and emotional feeling, there is also a class of qualitatively more sophisticated percepta that symbolically represent previously acquired (learned) wisdom (logically conceived to have correlative physio-chemical "storage" equivalents, in principle, capable of empirical confirmation) that spatio-temporally endures, and comes constructively (synthetically) to bear upon any relevant contemporary stimulus-occasion so as to profoundly enhance the subjective psychological meaning of that event. This last class of percepta with their CONSTRUCTIVE characteristic will be our predominate concern in the remainder of the chpater. However, the problem to be initially confronted regarding this

historically problematic issue is in DESCRIBING accurately the UNIVERSAL manner in which the constructively intrinsically characteristic of human thought is accomplished. However, the successive task of presenting a plausible EXPLANATION of the subjective psychological "mechanics" of constructive cognitive synthesis, or stated differently, of providing a possible explanation of how synthesis is accomplished during thought-in-process, must be postponed to the next chapter. Moreover, the striking fact will emerge that our 'descriptive' endeavor will also yield a final formulation of the LOGICAL FORM of subjective psychological experience, or that essential structure universally embodied within all possible human experience. This will be our completed concept of mind.

In the second chapter, the extraordinary nature of MEANING-AS-DIRECTLY-FELT-RELATEDNESS was emphasized specifically by accentuating the logically distinguishable portion of our subjective psychological experience which fills out consciousness with the strange but undeniably efficacious classes of percepta CONSTITUTING subjective psychological MEANING. It was argued that the ontalogical emergence of this unique realm of MEANING from intrinsically unconscious physio-chemical mechanisms is the result of organic concrescence involving the appearance of large numbers of relevant organic propensities that synthetically unite, hence yielding novel emergent phenomena termed FEELING that permeates the human physiology. As concrescence increases, it was further argued, qualitatively more

sophisticated levels of feeling also emerge, the highest grade being achieved in ideational feeling. This feeling, due to its intrinsic symbolic character, can, in turn, promote progressively higher-ordered ORGANIC concrescence even though mental processes themselves operate in accordance to a logically distinct (non materialistic-mechanistic) mode of causality from that of physio-chemical phenomena. This is to say that IDEAS can cause higher-ordered physio-chemical synthesis, and vice versa. Conscious causality is rendered possible because of MEANING-AS-DIRECTLY-FELT-RELATEDNESS. This is to reiterate what has formerly been said: that consciousness adds a new DIMENSION to reality over and above the unconscious physio-chemical domain. MEANING-AS-DIRECTLY-FELT-RELATEDNESS arises from the possibility of human organisms to experience qualitatively distinct emotional states, and further, of imposing a disciplined organization upon emotion by transforming it into an elaborate system of disciplined symbols. The essence of these symbols is the fact of their extensive INTERRELATEDNESS with one another. At primordial levels of symbolic development a triumphant achievement is made by each human organism when it discovers that relevant groups of undisciplined but familiar emotion conjured by a given stimulus-object effect can be subsumed to a single symbolic utterance that REPRESENTS the amorphous experiential unities. From this, the next equally important discovery occurs when the organism realizes that symbols can be organized into

configurations that represent elements of experience; and eventually, learns that symbols can be used to GENERATE, hence IN THEMSELVES BECOME novel experience. Obviously an immature mind comes to understand these extraordinary developmental advances on a level commensurate with its infantile capacities. The point in all this is that MEANING-AS-DIRECTLY-FELT-RELATEDNESS experienced as a major PORTION of symbolic meaning is primarily a vast, vaguely conscious network of relevant symbols synthetically actualized into an atomic unity QUALIFYING a clearly conscious focal point of denotative symbolic meaning. The enormous aggregation of CONNOTATIVE symbolic wisdom is conjured almost instantaneously to consciousness -- hence filling-out consciousness with a highly sophisticated yet vaguely conscious sense of far-reaching meaning -- in the dynamic process of thinking where denotative symbolic components have only ephemeral temporal duration. Thus the intrinsic nature of conscious experience with its unique mode of causality springs from the inextricably unified synthesis of myriad vague symbolic ideational propensities that reflexively accompany clear denotative symbolic components, the collective actualization of which is CONTINGENT upon the CONCOMITANTLY appearing stimulus-object EFFECT ingressing into the consciousness of a human organism. Conscious understanding IS IN ITSELF the indivisible, directly experienced net result of a bewilderingly complex configuration of ideational propensities synthetically emerging as its constitution. Since the TOTAL INTEGRATED unity IS

conscious experience -- or more specifically, what we have defined as a mental event --, all of the logically possible constituative ideational propensities (or considered from a physio-chemical perspective, all of the logically possible constituative organic propensities), even if it were technically possible to formally express these conditions, could not capture the exact subjective MEANING embodied in the original, ontalogically particular occasion during which the event was actualized. This must be concluded for we have previously proven that only the individual within whose organism a given mental event occurs can, in principle, have (DIRECT) IMMEDIATE access to the event. We are merely saying that only individuals themselves can be the subjects of their own experience. However, stated more rigorously, two dimensions of this issue become evident. First, it has been seen that from even a theoretically possible complete physio-chemical specification of the organic propensities underlying a given mental event, definitive statements of the correlative mental state could not be analytically deduced, hence rendering this mode of factual acquisition a matter of empirical enquiry. From this it follows that there are two logically distinct phenomenal domains, and also since it was shown that ALL phenomenal ascertainment necessarily presupposes a priori a mind to perceive the phenomena, it must be concluded that mental events are causally efficacious in that minds cause knowledge, for example. Here we have, among other things, an argument

demonstrating the impossibility of ANY behavioral science becoming capable (through intersubjectively verifiable means, or otherwise) of knowing the EXACT nature of any individual's mental event throughout any given temporal duration. Although the argument for this view was presented in terms more appropriate to physiological sciences, it also is perfectly applicable to a Behaviorism in that the latter deals with more macroscopic behaviors, but nevertheless, it methodologically accepts ONLY those phenomena directly perceivable through the external bodily senses. Secondly, an argument predicating the PARTIAL PRIVACY of mental events will be propounded by the writer; but one, as we will see in later chapters, which shall have very important implications for subjective psychological research procedures. Even if all the ideational propensities (event-components) participating in a given mental event could be objectively ascertained through analyzing verbal reports made by a subject (and as it has been shown, this is an impossible feat because (1) of the different spatio-temporal locations of individual percipients, (2) experience is more extensive than mind's capacity to symbolically represent its components, (3) of the transitory nature of mental events, (4) there are emotional components of experience that are presymbolic), the exact nature of the mental event could not be exhaustively objectively characterized. Apart from perhaps the fundamental recognition that direct perceptual apprehension as experience-in-process is the ultimate indubitable basis for the FACTUAL dictum 'that

which is the case', there is the additional important consideration that the subject's verbal reports -- the best INDIRECT (and hence, practically the ONLY) means that we have for coming to know about his inner states -- are perceived by external observers solely as SPOKEN DENOTATIVE SYMBOLIC COMPONENTS. This is to say that the HEARD verbalizations are the intersubjectively (directly) verifiable factual phenomena. However, Behavioral scientists (i.e., objective or subjective psychologists) do not, and cannot in principle, have direct perceptual access to the CONNOTATIVE or MEANING-AS-DIRECTLY-FELT-RELATEDNESS COMPONENTS OF THE SPOKEN SYMBOLS. IN ESSENCE, THEY CAN DIRECTLY PERCEIVE ONLY A VERY SMALL PORTION OF A SUBJECT'S SUBJECTIVE PSYCHOLOGICAL EXPERIENCE FOR THEY HAVE DIRECT ACCESS TO ONLY DENOTATIVE AND NOT CONNOTATIVE ASPECTS OF SYMBOLS. THEREFORE IT MUST BE CONCLUDED THAT BEHAVIORAL SCIENTISTS CAN ONLY COME TO KNOW SUBJECT'S SPOKEN SYMBOLS TO THE EXTENT THAT THE SCIENTISTS AS INDIVIDUALS ASCRIBE THEIR OWN PERSONAL CONNOTATIVE MEANING TO THE SUBJECT'S 'CONTRIBUTED' (and therefore functioning as stimulus-object EFFECTS in the individual minds of observational SCIENTISTS) DENOTATIVE SYMBOLIC UTTERANCES. THUS OBSERVERS' ACCURACY OF UNDERSTANDING IS A FUNCTION OF THE DEGREE TO WHICH THEIR INDIVIDUAL CONNOTATIVE INTERPRETATION OF SUBJECT'S CONTRIBUTED DENOTATIVE SYMBOLIC COMPONENT DEVIATES FROM SUBJECT'S CONNOTATIVE ASCRIPTIONS. The implications of this conclusion have enormous importance for any discipline studying the meaning and usage of language and other

symbolic modes. Without belaboring the obvious ramifications of this issue, we have only to recall our past discussion on the meaning and method of SYMBOLIC DISCIPLINE, and the diagramatic representation of a hierarchy of symbolic endeavors, each manifesting an increased amount of symbolic discipline as one proceeded to higher hierarchical levels (see figure 1). From an organic point of view it was seen that increased symbolic discipline in a given system of enquiry is a matter of the participating human organisms developing reasonably close concordance among the configurations of organic propensities that are constructively brought to bear to MEANINGFULLY enhance the bare contributed contemporaneous stimulus-object effects. From the perspective of conscious experience this is to say that considerable concordance is achieved by individuals with respect to their interpretative ideational propensities, or more specifically, the CONNOTATIVE meaning implicit within given denotative symbols. Practical instances of this disciplined state of affairs are evidenced in operational definitions, axioms, postulates, etc. All these are devices designed to effectively facilitate the extent to which individuals can develop similarity in their personal understanding of symbols and transformation rules.

The argument demonstrating the impossibility of exhaustively coming to know the intrinsic nature of subjective psychological meaning from an external observational perspective can be carried a step further. Since, over and

above the information that could be derived from an ideally complete objective analysis of all the organic and ideational propensities capable of participating constitutively in any given mental event, there would be (in addition) a class of information referring to the subjective psychological states of individuals as they are known through DIRECT acquaintance by the individuals themselves, it must be concluded that this additional information results from the EXPERIENCED UNIQUE NEXUS of propensities as they are novelly actualized in ontalogically particular events, and are thereby directly perceived in their full synthetic unity by individual percipient minds. Unique nexus, referring to particular actualized configurations of propensities uniting during given occasions, is merely a term again accentuating the fact that the emergent elements of conscious experience could not be completely understood in their full synthetic unity from even an exhaustive specification of all relevant ORGANIC and IDEATIONAL propensities involved in a mental event. Therefore, to scientifically study propensities ABSTRACTED from their total unified nexus is to necessarily delimit, and hence, DISTORT in varying degrees the COMPLETE FACTUALITY of any given occasion. However, on the other hand, it is in this way that science progresses, for otherwise a discipline would be required to comprehend theoretically "all relevant variables" before it could proceed with its enquiries; a stipulation that is obviously unsatisfactory. Now any given

human organism has privileged (direct) access to his mental states in the sense that since it requires TIME for complete thoughts to become formulated, and further, because even in simple mental events beyond the fact that there may be many denotative symbolic elements clearly evident in consciousness, there are also a multiplicity of substantive connotatively meaningful ideational propensities ANY of which may SUGGEST a new mode of thought. By this time it should be perfectly evident to the reader that CONSCIOUSNESS is an ontalogically necessary condition for ascertaining ANY of the possible ideational VARIABLES that may causally influence the direction in which any thought may develop (although most of our thoughts are consciously habituative). Thus to seriously think that a behavioral science could have DIRECT access to the many possible variables that influence the course of a developing behavior is rather ludicrous. However, since our Behavioral patterns are most frequently habitual, whether in silent thought or in manifest behavior, a Behavioral science can make important determinations about human behavior. The distinction cited with regard to the many possible variables that can influence Behavioral modes was made to emphasize our quite primitive understanding of what creative thinking is, let alone understanding the cognitive processes involved in its actualization. It must be clearly understood that in an individual's privileged position with respect to his subjective psychological experience, ANY DENOTATIVE and CONNOTATIVE element of his

vague-to-clearly conscious symbolic resources can operate constructively in clear consciousness by being considered in contrast to an extensive backlogue of accumulated WISDOM, thus, resultantly generating novel synthetic ideational products capable of serving as stimulus-objects for promoting further thinking, or merely being stored in memory pending conjuration on a more propitious occasion. Therefore over and above the denotative symbolic components periodically capable of direct intersubjective verification, there is an entire HISTORY of potential stimulus-objects serving as the predominate private frame of reference from which individuals can make cognitive Behavioral determinations. Because psychologists frequently contemplate human behavior as habitual and reflexive, this may well be a symptom (as it seems to be, as we have repeatedly shown in this paper) of their unwarrantedly narrow conception of such behavior. It appears that with our importantly broadened view of human behavior as considered by subjective psychological theory, "UNPREDICTABLE", hence constructively reflective modes of behavior ought to be ENCOURAGED through Behavioral engineering, not necessarily denounced as a weakness in the power of scientific explanation, for we have only to consider the large number of stimulus-object variables that are DIRECTLY accessible to individuals on given occasions, while we as observers have only (often at best) indirect accessibility. This is a fact of present human Behavioral research that ought to be recognized and expeditiously capitalized upon, not merely repressed.

We have been briefly reconsidering the nature and significance of MEANING-AS-DIRECTLY-FELT-RELATEDNESS as a distinct class of percepta. Our predominant concern in analyzing this phenomenon has been in designating its essential characteristic as being the "substance" of subjective psychological experience. In this section, beyond the fact that connotative symbolic meaning (arising from the synthetic actualization of innumerable mutually relevant ideational propensities occurring in response to correlative stimulus-object effects) is the EXPERIENTIAL essence of subjective psychological MEANING, there is the equally important fact that it executes a CONSTRUCTIVE hence CAUSAL function. It has been repeatedly argued that the wisdom of the past is brought constructively to bear upon the present occasion so as to enhance its psychologically experienced MEANING. This, in effect, is to say that previously established organic propensities (prior learnings) having relevance for given contemporary stimulus-object effects are REFLEXIVELY and SYNTHETICALLY activated when stimulated. The mechanistic basis for this possibility is in the physio-chemical STRUCTURE of the human organism and is subject to experimental investigation. But also an emergent manifestation of this remarkable physio-chemical synthesis occurs as subjective psychological experience. However, in many of our preceding enquiries a reoccurring conclusion has been that emergent psychological phenomena are intrinsically different from their physio-chemical correlates. Therefore, with regard to previously learned

wisdom (occurring as MEANING-AS-DIRECTLY-FELT-RELATEDNESS), if it consists of ontalogically unique, emergent, disciplined symbolic feeling, and moreover, since it synthetically infuses contemporary perceptual deliverances with symbolic MEANING that would otherwise not be intrinsic to these contributions, the conclusion may be drawn that connotative meaning CAUSES contemporaneously contributed percepta (i.e., stimulus-object effects) to be MEANINGFULLY UNDERSTOOD as intelligible actuality. Here we have a conclusion that is in need of considerable explication if it is to be rendered systematically intelligible, however, because of some further introductory remarks that have yet to be made, it is necessary to postpone an elaboration for a brief period.

One of the most fundamental assumptions upon which our entire concept of mind rests is that in a reflective analysis of concrete subjective psychological experience it will be found that the COMPONENTS of mind-in-process can be distinguished into logically and experientially distinct classes of percepta, ultimately reducible to THE CATEGORIES, which if their intrinsic perceptual nature and relation to one another are carefully scrutinized, can yield an accurate theory of mind. More specifically some implications of this statement are as follows:

a) In the analysis of conscious experience performed heretofore it was discovered that to isolate the possible distinct CLASSES of percepta that could participate in the constitution of ANY given mental event was in a rude sense to comprehend the LOGICAL

FORM of subjective psychological experience. This is to say that ANY possible mental event must necessarily be a synthetic product of 'contributed' perceptual components issuing from stimulus-objects located in the external natural or internal bodily (viz., as organic bodily feeling, emotional feeling, or ideational feeling) environments, a connotative symbolic perceptual component (including both vague symbolic and emotional percepta), and in MOST cases a denotative symbolic perceptual component.

b) Also an analysis of the percepta ('contributed' directly as entities, properties, and relations) comprising concrete experience, over and above revealing the concept of a LOGICAL FORM that is inherent to all possible human experience -- a term implying PERMANENCE in that the FORM is universally constant throughout all time --, can yield an understanding of the concrete SYNTHETIC PROCESS demonstrated in any given particular event. We have talked little of how mental events may be synthesized out of their basic possible components, for such investigations must presuppose a clear conception of the LOGICAL FORM of subjective psychological experience. This means that before a discussion of mind-in-PROCESS can successfully transpire, it is necessary to develop an accurate understanding of THAT which is in process. It is the purpose of this chapter to provide a final specification of the possible perceptual components of mind and the LOGICAL FORM revealed in their distinctive modes of ingression. Therefore it is only after this latter problem has been resolved that an enquiry into the concrete SYNTHETIC PROCESS of thinking can be successfully undertaken; an investigation of the PROCESS of thinking will be executed in immediately following chapters.

c) Hence a subjective psychology aspires to give its account of human behavior by initially indicating the LOGICAL FORM in which human experience concretely occurs, and the classes of perceptual contents with their unique properties that embody the FORM; and at a second successive stage, to determine the conditions from which possible laws of ideational synthesis may be established to systematically characterize the PROCESS of thinking-behavior. This latter stage must rely upon both

> the powers of logical analysis in developing theoretical constructs and experimental enquiry for validating hypothetical assertions.

It has been seen that all possible percepta synthetically constituting mind throughout ANY given temporal duration can be classified as 'contributed' percepta or stimulus-object effects, connotative and (almost always) denotative symbolic meaning. In their experientially actualized state, the basic dipolar distinction characteristic of mind (viz., 'percepta concomitantly coming constructively to bear upon other percepta') is in evidence. This essential dipolar character, as it will be seen with increased specificity, is on one hand an apparently naive view of cognition; yet on the other hand, it demonstrates an ultimately important principle that will underlie all our enquiries regardless of their technicality.

The format for the remainder of this chapter will be largely one of ascribing new names to previously developed concepts, the principal modification being that the meaning of certain concepts will be EXTENDED, thereby rendering them more inclusive in their power to explicate certain subtle dimensions of concrete human experience. An illustration of this was suggested in saying that, for example, we shall broaden the concept of 'MEANING-AS-DIRECTLY-FELT-RELATEDNESS' by not only stressing its crucially important experiential quality of FELT symbolic relatedness, but also the equally important property, that this class of percepta actually CAUSES our personal awareness of reality to be subjective psychologically MEANINGFUL! Concisely stated, then, the term

'presentationally immediate percepta' will be used interchangeably with the term 'contributed percepta'; 'causally efficacious percepta' will supercede the terms 'vague symbolic connotative meaning' and 'MEANING-AS-DIRECTLY-FELT-RELATEDNESS'; 'emotional feeling' will be replaced by the term 'causally efficacious emotional percepta' and will generally be regarded as implicitly contained within the notion of causally efficacious percepta unless stated otherwise; finally, the term 'causally efficacious conceptual percepta' will be used in place of 'denotative symbolic meaning'. A further important consideration is that presentational immediacy (PI), causal efficacy (CE), causally efficacious emotion (CEE), and causally efficacious conceptual perception (CEC) are to be hereafter regarded as PERCEPTUAL MODES, whereas PI, CE, CEE and CEC PERCEPTA will be considered as the classes of perceptual contents that ingress via these modes. Therefore the notion of a perceptual mode merely indicates the WAY in which given classes of perception participate as event-components of particular mental events. Finally, although Whitehead in his later writings used the terms presentational immediacy and causal efficacy (and another term to be later introduced as 'symbolic reference'), his definition of each perceptual mode, while having much in common with those to be introduced by the writer, should not be considered as identical in meaning with the writer's formulation.

Once again, although its restatement may seem redundant to the reader, it should be remembered since our concept of

mind follows directly from a careful analysis of the PERCEPTA (occurring in inextricably unified configurations defined as events) that constitute conscious experience, and because these percepta reveal themselves such that they can be subsumed to homogeneous or categorical classification, then it must be clearly understood that in our analysis of distinct CLASSES of percepta (viz., PI, CE, CEE, CEC) we shall be discussing their intrinsic natures in ABSTRACTION from their concrete modes of occurrence. This is merely to say that SINGLE classes of percepta NEVER occur in purely homogeneous independence; that is, the general definition of mind as 'percepta concomitantly coming constructively to bear upon other percepta' necessarily demands that perceptual actualization must at least occur in DIPOLAR form. Thus we can never in mature intellect experience, for example, pure presentationally immediate percepta without its perceptual concomitants 'causally efficacious emotion' and 'causally efficacious perception', as they ass synthetically ingress into the contemporary emergent occasion. To be consciously AWARE AT ALL demands that more than one perceptual mode be constructively activated; this is the principal implication of MEANING-AS-DIRECTLY-FELT-RELATEDNESS.

PRESENTATIONALLY IMMEDIATE PERCEPTA

An effective method for coming to accurately understand the distinct classes of percepta that synthetically constitute conscious experience is in pondering AT LENGTH the nature of each class IN ITSELF AS IF THE PERCEPTA WERE TO

OCCUR IN COMPLETE HOMOGENEITY, AS UNMIXED WITH PERCEPTA FROM OTHER CLASSES. This may appear to be a rather questionable analytical procedure to some, but in fact, it is merely a typical act of critical, constructive REFLECTION. For example, the method involved is no different than that operating when a geometer conceives of a perfectly straight line, or a mathematician defines a point as that conceptual entity having no extension through which an infinite number of lines may be drawn. Similarly we must conceive of PI percepta as CLEARLY and DISTINCTLY appearing in consciousness during the ever-emerging PRESENT experiential occasion. Further, these PI percepta are to be regarded as referring to stimulus-objects LOCATED in either the external natural world or internal bodily organism. Also, since PI percepta are stimulus-object EFFECTS, and we have said that these effects 'conjure' relevant organic and hence ideational propensities to the present occasion so as to bring the wisdom of the past constructively to bear upon the present occasion, the CONCOMITANT appearance of OTHER classes of percepta (over and above PI percepta) is NECESSARILY CONTINGENT upon the occurrence of PI percepta. This is to say that PI percepta are LOGICALLY PRIOR to other classes of percepta in that 'GIVEN PI percepta, at least CEE and CE percepta must also synthetically occur' (this matter of 'logical antecedence' in distinction from 'temporal antecedence' is a difficult one, consequently we shall give careful consideration to this distinction in future discussion for it is basic to many problematic philosophical and

psychological issues). Finally, PI percepta must be viewed as percepta 'CONTRIBUTED' from externally or internally located stimulus-objects. Therefore, there are five criteria that delineate PI percepta from other classes of percepta, namely:

1) clarity in conscious awareness
2) distinctness in conscious awareness
3) contemporaneity of occurrence
4) logical antecedence in occurrence
5) contribuity.

The first criterion implies that entities and their CONCRETELY perceived properties and relations participate VIVIDLY in consciousness such that their presence as elements of given events is unmistakable in their participation as self-contained event-components. For example, to SEE a green leaf as such in intuitive primordial experience, INDEPENDENT of linguistic characterizations, light wave, biochemical or botanical theories, is an indubitable perceptual fact that will endure in self-evident truth value beyond the CHANGING theories that have (and will) be developed to explain its RELATEDNESS to other factors in nature; even the words 'green leaf' are an ABSTRACT portrayal beyond the more primitive subjective psychological experience of the stimulus-object EFFECT in itself. However, all PI percepta do not manifest the vivacity of visual percepta. In fact, it is possible to designate three general levels of vivacity:

a) those percepta delivered via the external bodily senses,

b) those percepta delivered as internal organic feeling (e.g., pains, throbs, etc.), c) and those percepta occurring as ideational stimulus-object EFFECTS, generally occurring as denotative symbolic components or causally efficacious concepts formulated in PREVIOUSLY actualized experience -- thus acquiring the status of becoming stimulus-objects -- that enter into contemporary events as PI percepta (this matter is quite technical, therefore it will be developed with increased precision as we proceed).

The second criterion 'distinctness in conscious awareness' is closely related with clear awareness but in the sense that perceptions of entities, properties and relations ingressing through the PI mode can be perceived as distinctly SEPARATE factors (APART) FROM the more complex CONTEXT (the entire factual circumstance of an event that is far broader than mind's ability to symbolically represent it) within which such factors necessarily occur. Thus apart from the vividity of PI perceptual occurrence, while conceived conjointly with the criterion clarity, is the recognition that stimulus-object effects appear as discernably unto themselves. This is simply to say, for example, that we do perceive chairs as distinct entities from the immediately proximate table, floor, wall, and so on; we may hear a sound as a distinct interruption in an enduring silence; throbs are distinctly variable in their felt intensity; a clear concept of 'green' is clearly recognized to be distinct from the concept of 'automobile' /here we could once again arrange these illustrations of distinctness into a

hierarchical ordering in that, for example, the concrete perceptual distinctness between a table and a chair is more readily evident than the concepts of 'wisdom' and 'virtue' as they apply to human Behavioral states (e.g., the issues raised in the Socratic dialogues)7. Thus distinctness as it is in evidence in our perceptual experience, and at much higher levels, in our cognitive discriminations among the distinct denotative meanings of various ideational stimulus-objects, is intimately related to the human organism's ability to discern CONTRAST. The fact that we perceive contrasting perceptions is of course largely contingent on the structure of our bodies as well as the heterogeneity intrinsically characteristic of PI percepta. This is merely to say that if human organisms perceived only the colors black and white, many visually contrasting instances of perceptual differentiation would never have been made. But a discussion on the topic of contrast is quite complex and would lead us far afield.

Since 'process' is a fundamental fact testifying to the nature of reality, the concept of an immediate perceptual presentation becomes somewhat problematic, at least on logical grounds. We have seen that the ultimate considerations upon which our entire concept of mind is based are the perceptions revealed in concrete experience. More specifically we have theoretically analyzed experience into its constituent atomic components, namely events. Although events can be analyzed into their constituent elements, it was stressed that this is only achieved through critical,

analytical and constructive reflection. This is to say that we do not experience' event-COMPONENTS as distinct atomic unities; rather we experience complete EVENTS within determinate spatio-temporal durations. The relevance of this for PI percepta is that concretely speaking such perceptions ingress into subjective psychological experience "OVER TIME": we do not typically contemplate PI percepta as occurring in instantaneous temporal synthesis with concomitant CE, CEC percepta. Rather, this latter conception is a product of theoretical imagination, as is the notion 'atom', for example. During our experience, mind's gross, imprecise apprehension of percepta, occurring generally as change amid permanence, reveals nothing of the "knife's-edge" of the absolutely instantaneously occurring present JUST as it has emerged from the past and is JUST about to proceed into the future as a newly emergent present. Rather an experiential phenomenon that we, in retrospect, neatly characterize as a particular event, is actually comprised of undercurrents of process, localized permanence, groups of elements readily amenable to symbolic characterization (thereby surviving to constitute our recollections and characterizations of former experiential occasions), and finally vast expanses of only vaguely apprehended percepta which because of this quality frequently escape contemporary recognition. Thus it should be understood by the reader that the basis for the criterion of 'contemporaneity' as well as the other four criteria are not to be found as immediately evident properties of EVENTS, for these criteria designate universally characteristic

properties of classes of event-components, formulated only through careful analytical reflection. Therefore, these criteriological considerations essentially permit us to construct a hypothetical model accurately comprehending, from an ideally immutable frame of reference (i.e., from the model itself, functioning as an instrument for facilitating validity and logical consistency in our reflective analyses), the LOGICAL FORM of subjective psychological experience. As a result of this theoretical possibility we are enabled, for example, to CONCEIVE of human Behavioral circumstances (i.e., with regard to thinking behavior) in which any given thought can be analyzed into its instantaneously concomitant components, whose LOGICAL FORM can be analyzed into PI, CE, CEC and CEE perceptual deliverances, and the EXPERIENTIAL PARTICULARITY of which can be EMPIRICALLY ascertained by consulting the subject in question. But since ALL perceptual components of an event occur CONCOMITANTLY, how does the criterion of 'contemporaneity' apply to PI perception? This problem may partially be resolved by saying that this criterion stresses the spatio-temporally unique character of the ever-emerging PRESENT OCCASION ingressing into individual organisms as NOVEL PI perception from external natural and/or internal bodily environments. More will have to be said about this criterion as additional qualifications are made in defining the nature of PI perception. The topic will again be considered in the section of this chapter entitled "Causally Efficacious Conceptual Percepta".

Beyond what has been said about the criterion of 'logical antecedence' we may simply mention that its chief utility is in accentuating the fact that we bring meaning to bear upon a stimulus-object only (logically) AFTER the effects of the stimulus object have ingressed into consciousness. This priority distinction is one of LOGICAL NOT temporal significance in that given stimulus-object effect A, relevant wisdom A' (as a temporally concomitant accompaniment) follows. A simple illustration of this point is, for example, that we (subjective psychologically) MEANINGFULLY recognize the 'green grass' of the meadow where we are standing if we are, in fact, directly experiencing the natural perception. Thus given the perception of a grassy meadow, a subjectively meaningful awareness of the fact issues from the CONCOMITANT actualization of percepta ingressing into a percipient's consciousness via the modes of PI, CEC, CE, and CEE. We do not, unless there is an incidence of hallucination, directly perceive meadows that are not, in fact, before our eyes (however, in the theory that is being developed, even such hallucinatory experiences can be reconciled with the criterion of logical antecedence). The reason for laboring over the issue of logical antecedence is that we are bordering closely upon the philosophical problem of 'causality'; certain aspects of which we are compelled to consider in the problem of mind as it is being conceptualized. However, it is inappropriate to discuss the causality issue at this time for our concept of mind has not yet been adequately developed, hence deferring the

problem to future analyses. However, the logical antecedence issue will again arise in explicating the nature of CEC percepta.

Finally, it merely has to be mentioned at this stage of argumentation that the criterion of 'contribuity' acknowledges the fact that percepta referring to natural and organic bodily stimulus-objects /revealing themselves as entities, properties and relations, and considered theoretically as UNSYMBOLIZED (UNINTERPRETED) deliverances/ are NOT CAUSED (in the sense of being ontalogically brought into existence) or CREATED by mind. They are obviously CONTRIBUTED EFFECTS, or classes of percepta logically distinct from those termed denotative symbolic meaning or MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Some additional qualification, however, is required in this distinction by showing that causally efficacious conceptual percepta /having (ALREADY) in the PAST been actualized, and hence ingressing into temporally successive events as stimulus-object EFFECTS -- THEREBY PARTICIPATING IN EVENTS AS LOGICALLY PRIOR TO OTHER CONCOMITANT PERCEPTA/ must also qualify as PI percepta for it fulfills the five relevant criteriological requirements. This matter shall be elaborated as we proceed.

In a more general consideration of presentationally immediate percepta, though still in light of the above criteria, it can be said that these perceptual data as directly presented in their barren UNINTERPRETED state (viz., logically prior to ANY symbolic characterization;

antecedent to even emotional familiarity) would be mere transitory flux. Process would incessantly manifest itself amid permanence in the ever-emerging present. More explicitly, however, this is to say that PI perceptual configurations which mature intelligence entitled as trees, sounds, specific shapes, written words, pains, ideas, certain changes of state among entities and properties, and so on, conceived logically in their pure state, could never be MEANINGFUL objects of consideration APART from mind's symbolic power of representation (it will be recalled that our definition of 'symbol' also includes emotion whether disciplined or undisciplined). In fact, it is logically contradictory to even raise the question of whether pure PI perceptual objects can be KNOWN apart from mind's ability to know them, for the concept of knowledge necessarily presupposes a system of symbolization to be organized as KNOWLEDGE which in turn presupposes A PRIORI minds that gain intelligent organization via symbols. The question of whether stimulus-objects EXIST independently of mind can be resolved, as we have generally seen, by understanding that stimulus-object EFFECTS are EVENT-COMPONENTS, but components that are "given" or 'contributed' from internal or externally LOCATED regions. Thus since mind does not CREATE, in the sense of "bringing into being", these components, or that minds do not create colors, sounds, pains, etc., in the same sense that minds CREATE or CAUSE subjective psychological MEANINGFUL definitions and concepts, it can be concluded that there are stimulus-objects that correspond to the

EFFECTS that are contributed to our minds as perceptions (Note: the writer does not consider this terse analysis of the issue of stimulus-objects and their effects to be adequately discussed, by any means. The topic will be more carefully analyzed in a later chapter entitled "Stimulus-Objects, Their Effects, and Subjective Realism"). We are justified in considering PI percepta as LOGICALLY distinct from other possible classes for this class is 'contributed' (and also, of course, as a result of the other criteria that distinguish them as a unique class of percepta), and the class may be conceived as logically distinct without necessarily being compelled to deny the independent existence of minds, or an external world, or consider PI as the only possible perceptual mode, and so on.

Presentationally immediate percepta, then, are those contributions issuing from the ever-emerging PRESENT, completely devoid of any element testifying to 'stored' learnings from the past. But considered LOGICALLY in their independence as pure contributed percepta, they are by no means the entirely formless sensory "given" of which Kant speaks. For Kant, pure sensuous intuition delivered through the determinative modes of space and time demanded with A PRIORI necessity that such intuition be subsumed to his Categories before the perceptual matter could acquire ANY INTELLIGIBLE form at all. But we differ from this view in that our concept of 'contribution' definitionally implies that external natural and internal bodily PI percepta come to us as event-components with their OWN INDEPENDENT

(perceptual) MATTER AND FORM, and thereby do NOT rely upon MIND for their characteristic properties. This is to say that an immediately and directly perceived (PI) perception of a table or a pain, APART FROM OUR SUBJECTIVE PSYCHO-LOGICAL SYMBOLIC CHARACTERIZATION OF THEM, are CONTRIBUTED to mind with AN INTRINSIC NATURE OF THEIR OWN FROM WHICH THOSE ENTITIES ACQUIRE PARTICULARITY IN THE SENSE THAT THEY ARE ULTIMATELY THE ENTITIES THAT THEY ARE AND NO OTHER. For example, the 'matter' of a table considered as a VISUAL presentation would by the array of colors that distinguish it from other entities. However, the table is delivered as visually "more" than a mere haphazard patch of colors; rather the colors are presented in an organized, permanent 'FORM'. Again in the case of a FELT pain, the 'matter' would be its occurrence as a PAINFUL FEELING as opposed to a PLEASURABLE feeling, for example. Thus by placing our hand on a hot stove, the perceptual consequences would be such that the essential experience of the burning, painful perception would be intrinsically undesirable whether we came to symbolically characterize the brute PI sensation as a 'painful burning sensation' or a 'cooling breeze'. The 'form' of a painful perception would be its uniquely characteristic quality, e.g., a 'hot' pain, a 'sharp or piercing' pain, a 'dull persistent' pain, etc.; and its temporal (durational) property, e.g., as sporadic, throbbing, momentary, etc. The point to be made in the two above illustrations is that the direct PI EXPERIENTIAL properties

of the two perceptual states are INTRINSIC to the perceptions as DIRECTLY CONTRIBUTED and are not, thereby, dependent for their MATTER - FORM characters upon any constructive power of mind, even though of course, it is contradictory and hence meaningless to speak of percepta "occurring" without minds to stand concomitantly "over against them". Further, this conceptualization of the nature of contributed PI percepta also establishes a fundamental epistemological fact, that all our knowledge, existing psychologically as symbolic entities, with their properties and relations ultimately acquires its logical form from the entities, properties and relations perceptually ingressing into our subjective psychological concrete experience as external natural perceptual deliverances, internal organic bodily feeling, and emotional feeling originally contributed via presentational immediacy.

Since throughout each of our personal conscious lives we CONSTANTLY entertain perceptions from our external and internal environments, then it must be concluded that PI percepta ALWAYS participate as event-components in subjective psychological experience. Generally most of these percepta are so typical or matter of fact to our daily experience that they are rarely symbolically represented due to their subtlety of occurrence and unimportance. But nevertheless all such percepta must be understood as legitimate event-components. Also as a further technical distinction, (undoubtedly) it is only during the stages of early infancy that anything approaching a "pure" experience of PI percepta

is humanly pssible, for at this level of development 'stored wisdom' is unquestionably minimal. with behavior manifesting itself as predominately reflexive; wholly a function of externally (natural) and internally (organic) located stimulus-objects. Beyond this early level of development the progressive disciplining of emotion commensurately reduces the possibility of PI perceptual purity.

In our analysis of the first criterion that distinguishes PI percepta from other distinct classes, emphasizing the VIVICITY of conscious perceptual awareness, the point was made that although PI perception is EXPERIENTIALLY the most clearly manifested class of the four possible classes of perception it is nevertheless possible to discriminate even more precisely among the levels of clarity manifested by the percepta specifically appearing through the mode of PI. A hierarchy of presentational vividity was posited in that percepta delivered via the external bodily senses were more clearly and forcefully distinguishable than those occurring as organic bodily feeling, and certainly ideational feeling experienced as stimulus-object effect. To these levels we may simply assign the definitional terms 'natural PI percepta', 'organic PI percepta', and 'ideational PI percepta' thereby formalizing the within-mode distinctions to not only designate their particular degree of vividity, but also to increase the specificity of the term 'PI percepta'. Moreover, in analyzing the first criterion

an area in need of further clarification was mentioned, namely, that clear denotative symbolic percepta, or what will be discussed in detail as causally efficacious concepts (CEC) /BUT concepts ALREADY having been synthetically actualized as such (or stated differently, CEC whose emergent particularity during the PRESENT occasion is LESS NOVEL due to the fact that they were synthesized as genuinely unique ontalogical emergents in a SPATIO-TEMPORALLY ANTECEDENT event)7 can, after their inchoation, function as ideational stimulus-objects. Although the reader (heretofore) has had little explanation elaborating the nature of PI, CE, CEC, and CEE percepta, apart from the information pertaining to the previously developed concepts from which the present ones are refined derivatives -- thereby rendering the following questions and the ensuing discussion somewhat premature --, the explicative benefits to be derived from now analyzing the status of ideational PI percepta as stimulus-objects will outweigh the difficulties resulting from postponing the issue. If the enquiry should impress the reader as being obscure, it is not of great consequence for we shall have ample opportunities for reconsidering the matter in various other contexts throughout this chapter.

The question to be analyzed is the following: If IDEATIONAL PI percepta are actualized CEC percepta functionally occurring as stimulus-objects AFTER (SPATIO-TEMPORALLY following) their ORIGINAL inchoation as parti-

cular ideational entities, can they legitimately be regarded as PI percepta, for it can be rightfully argued that they are NOT 'CONTRIBUTED' in the same way that natural and organic PI percepta appear: ideational PI percepta are, rather, synthetic PRODUCTS OF mind, not INDEPENDENT contributions TO mind? This question, although stated in a highly abstract way, is of fundamental importance in theoretically demonstrating how subjective psychological thought achieves COHERENCE and CONTINUITY in its processes; again, two considerations that can be partially resolved through a reflective analysis of the LOGICAL FORM of human experience. A first step in answering this question, in order to clearly designate what we mean by ideational PI percepta, is to ask how it is possible, for example, to distinguish between the PI perceptual event-components ingressing into the two different mental events to which the following two statements refer:

case 1) 'The house is brown'.

case 2) 'My concept of virtue caused me to...'.

In case 1) we may assume that the stimulus-object effects of a house directly observed by an individual are ingressing into his consciousness, and he chooses to generally (linguistically) characterize the effects by means of statement #1. Thus a perception which we term 'brown' is participating as a constitutive component of the individual's mental event. But contrastingly in case #2, there is NO natural or organic PI percepta such as those linguistically REPRESENTED as 'brown' or 'throb' ingressing into the

individual's conscious experience; rather there is a FORMERLY LEARNED CONCEPT OF VIRTUE INGRESSING AS AN IDEATIONAL PI PERCEPTUAL EVENT-COMPONENT THAT, IN EFFECT, PARTICIPATES IN THE PRESENT EVENT IN SUCH A WAY AS TO DETERMINE THE NATURE OF THE CONCOMITANT CE, CEC, AND CEE PERCEPTA THAT WILL BE SYNTHETICALLY UNITED WITH THE LOGICALLY ANTECEDENT PI PERCEPTION TO PRODUCE A COMPLETE MENTAL EVENT. The ramifications of this conclusion are extremely complex and numerous, and actually can only be adequately understood after having completed this chapter and retrospectively pondered the preceding conclusion at length in light of the maze of argumentation presented throughout this discourse. For example, even though the ideational PI perception of 'virtue' DETERMINES the nature of the additional necessarily concomitant CE, CEC, and CEE percepta that will be synthetically conjured as the RELEVANT IDEATIONAL PROPENSITIES (hence, ORGANIC propensities) required to produce a complete mental event, the PI percept ITSELF is contingent upon MEANING-AS-DIRECTLY-FELT-RELATEDNESS (or more appropriately, what will be defined as CE percepta) for its principal attribute of being clearly and distinctly discernible in consciousness; as it would be the case if the percept was occurring as a denotatively clear CEC perception. This merely means that ideational PI percepta must originate as 'projected', symbolically SIMPLIFIED (thereby consciously clear and distinct) event-components in the same way that ANY denotatively clear symbolic components must arise from MEANING-AS-DIRECTLY-FELT-RELATEDNESS or CE percepta, for if

objects of understanding could not be clearly and distinctly symbolically conceptualized, human thought would not be possible at all. Similarly, in the case of ideational PI percepta, if we could not conjure clearly to consciousness those concepts that have been FORMERLY learned, human thinking could not occur. This is precisely the point of our complex discussion heretofore.

Thus the problem still before us is to prove that ideational PI percepta can validly qualify as PI percepta in the sense of being legitimately 'CONTRIBUTED', LOGICALLY ANTECEDENT event-components. If we are to remain consistent with the definition of mind as 'percepta concomitantly coming constructively to bear upon other percepta', or stated differently, as 'CONTRIBUTED' percepta coming concomitantly to bear upon the SYMBOLIC resources of mind, then we must show that the bipolar definition when applied to PURE COGNITION -- that is, mental events containing NO NATURAL OR ORGANIC PI PERCEPTUAL COMPONENT -- still remains consistent with this type of human behavior (a mode of behavior having NO directly intersubjectively verifiable features indicative of its intrinsic nature as subjective psychological experience, IF the behavior occurs as silent thinking). The primary importance of this issue is in demonstrating in a logically consistent way that the numerous IDEATIONAL CONCEPTS that we develop, constituting a large portion of subjective psychological experience, ARE in fact CAUSAL DETERMINANTS (stimulus-objects) in intelligent thinking-behavior. The argument to be presented will

essentially follow from the five criteria designating PI percepta as a logically and experientially distinct class of percepta.

1) Stimulus objects have been generally defined as those ontalogical factors that are INFERRED to yield stimulus-object EFFECTS. These ARE the event-components or perceptions that constitute our subjective psychological experience. Stimulus-objects can yield ANY of the EFFECTS encompassed within the domain defined as The Categories. Further we have DIRECT perceptual access to EFFECTS of stimulus-objects for they are known to us only through their possible modes of ingressing into our mental events.

2) The following schematism is a model that we shall frequently use hereafter to simplify and more lucidly illustrate concomitant perceptual deliverance in any given mental events. Again, although we have not yet discussed in detail the precise meaning of CE, CEC, and CEE percepta the reader may for the present discussion rely upon their understanding of connotative and denotative symbolic meaning as an adequate basis for the following model.

FIGURE 10

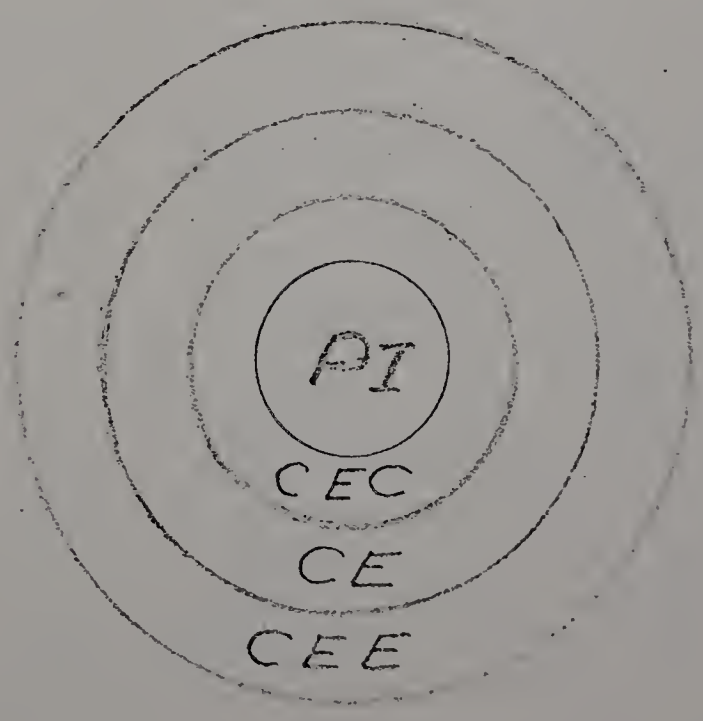


Figure 10 can diagramatically represent ANY fully actualized mental event, thus

a) PI are those percepta contributed by

stimulus-objects located in the contemporary natural world, or bodily organism. As we have said they can appear as natural, organic, or ideational PI percepta. Also they must meet the demands of the five relevant criteria designating PI percepta.

b) CEC percepta are what we have defined as clear and distinct denotative symbolic components in that they are the bare symbols (usually linguistic) or groups of symbols conceptually embodying a single IDEA (e.g., the concepts, 'Alfred Parker', 'the blue sky', 'a feeling of happiness', '$a^2 + b^2 = c^2$, etc.), and conceived in their barren symbolic form as logically separated from MEANING-AS-DIRECTLY-FELT-RELATEDNESS or CE and CEE.

c) CEE and CE percepta are the VAST configurations of VAGUELY APPREHENDED SYMBOLIZED percepta reflectively understood and IMPLICITLY FELT to infuse CEC percepta with subjective psychological meaning. In fact, this infusion of relevant percepta CAUSES the subjective psychological meaning of a mental event in that symbolic RELATEDNESS is the essence of CLEAR CONCEPTUALIZATION. Moreover (since symbols -- whether clear or vague -- are disciplined EMOTIONAL feeling) to say that CE percepta CAUSE subjective psychological meaning for intelligent conscious awareness, MEANS that the necessary conditions have been provided for SYMBOLICALLY UNDERSTANDING a given occasion as CONSCIOUSLY INTELLIGIBLE. Thus CE percepta stand in concomitant relation to ideational PI and CEC percepta by CAUSING their clear symbolic FORM as HIGHLY SIMPLIFIED symbolic focal points of clarity that enable mind to reduce the extraordinary complexity of a present moment -- THUS SACRIFICING A GREAT MANY EVENT-COMPONENTS, THOUGH ALSO RETAINING IN GREAT PART MYRIAD RELEVANT (occurring as connotative symbolic meaning) SYMBOLIC COMPONENTS AS THEY CO-EXIST WITH CEC PERCEPTA BY VAGUELY THOUGH POWERFULLY FILLING-OUT THOSE DENOTATIVE PERCEPTA WITH MEANING-AS-DIRECTLY-FELT-RELATEDNESS -- to a SIMPLIFIED symbolic focal point of clearly conscious meaning. This cognitive capacity enables thought to CONSTRUCTIVELY PROCEED or ADVANCE as conceptual development (constituted, of course, of clear components accompanied by

vague peripheries of symbolized-to-unsymbolized meaning that recedes from each ideational PI and CEC perceptual focal point of clarity).

d) CEE percepta are those highly nebulous emotionally felt percepta that are too vague to be symbolized. However, when these percepta ARE symbolized by analytical, constructive reflection, they are thereby, by definition, relegated to the status of CE percepta. CEE percepta are POWERFULLY EFFICACIOUS by intuitively suggesting novel modes of thought, but they are also conspicuously efficacious with reference to the highly nebulous though genuine perceptions CONSTITUTING FEELINGS /in contrast with the greatly intellectualized (hence clarified), precise LINGUISTIC DEFINITIONS/ of happiness, love, sorrow, qualitatively distinctive asthetic feelings, and so on.

e) The above model, as it is graphically illustrated, generally indicates the relationships among distinct classes of percepta, regarding the DEGREE of VIVIDITY or CLARITY and DISTINCTNESS intrinsic to their characteristic nature as event-components. This is simply to say, for example, that the perception of a 'red house' as visually perceived through PI is considerably more clear and distinct than a perception of one's 'feeling of hopelessness' perceived via CEE. However, on the other hand, there are instances where, for example, an ideational PI perception of 'virtue' may be less clear and distinct than its concomitantly emerging CEC symbolic definition (with its accompanying CE and CEE perceptual components that "fill-out" the definition with substantive meaning) which may far exceed in definitional precision a former, more limited concept of virtue. Finally the AREA included within each concentric domain is not proportionate with the NUMBER of event-components (i.e., symbolic and emotional) functionally involved in each class of perception. This is to say, for example, that the statement, 'The appreciation of beauty is the source of by greatest happiness in life', requires only thirteen words to be stated as a CEC. Yet undoubtedly the many hundreds of symbolized concepts concomitantly delivered as CE percepta

constitute the connotative meaning that fills-out the CEC percepta; hence CAUSING the emotional-intellectual FEELING OF MEANING, intrinsically characteristic of subjective psychological experience. Consequently, if proportionate peripheral AREA was an important consideration, then the area included by CE percepta would be many units larger than that of CEC percepta, for example.

3) We shall now easily demonstrate the basis for the conclusion that what we have defined as denotative symbolic or CEC components, initially synthesized as clear, distinct concepts on given determinable spatio-temporal occasions, CAN THEREAFTER (AFTER their original actualization as particular -- i.e., CEC -- ideational entities, hence acquiring a legitimate ontalogical status among other possible types of entities) REAPPEAR in THREE distinct ways:

a) as essentially the "SAME" CEC /although strictly (LOGICALLY) speaking, "sameness" is impossible, if only because of the DIFFERENT spatio-temporal location of the CEC7, roughly discerned through reflection as reappearing in spatio-temporally different mental events. There is nothing problematic about this notion in that, for example, we commonly RETHINK thoughts that have not changed fundamentally over the years. However, again in a strict sense, CEC that are "roughly similar" over time DO undergo modification that IS determinable via critical reflection. In this type of analysis it will invariably be discovered that our entire conceptual scheme of things constantly undergoes gradual, though (regretably enough) not necessarily important change. Technically stated, this slight but persistent change is a modification in the CE emotional and vague symbolic (propensities) perceptual configurations that constitute the MEANING-AS-DIRECTLY-FELT-RELATEDNESS causing the substantive meaning of CEC. In fact such notions as ideational habituations (positive and negative) and organic and ideational propensities are grounded in the possibility of REPETITION (within general limits) of Behavioral modes. This is to say that CEC can reappear as similar in the sense that the "same" PI perceptual stimulus conditions can conjure the "same" relevant CE percepta which in turn PROJECT the "SAME" SIMPLIFIED causally

efficacious conceptions (CEC percepta), all of which ingress into spatially-temporally DIFFERENT occasions from the one of their ORIGINAL inchoation.

b) as perceptually TRANSFORMED into a CAUSALLY EFFICACIOUS PERCEPT, in part filling-out the substantive connotative meaning of some OTHER CEC. Here the obvious fact is that ANY causally efficacious perception -- vague by DEFINITION -- has the POTENTIALITY of emerging as a clear, distinct CEC providing it has relevance for a PI percept (stimulus-object effect). Thus a given PI percept, occurring logically prior to its concomitantly appearing classes of percepta and functioning as a stimulus-object, conjures relevant CE percepta as substantive meaning, and from these CE percepta a CEC emerges as a clear synthetic product. Conversely, if a once clear (by definition) CEC is not raised to a clear and distinct status upon a given successive occasion it is obviously conceivable that it may have some relevance for another CEC appearing concomitantly in a present occasion, and thereby achieve the less consciously distinct status of a CE percept.

c) as an IDEATIONAL PI PERCEPTA, in that AFTER their ORIGINAL synthesis as a CEC, CEC percepta may REAPPEAR as ideational PI perception occurring LOGICALLY PRIOR to other concomitant classes of percepta, hence functioning as a stimulus-object that determines WHICH ideational propensities (occurring as CE, CEE and CEC percepta) will be conjured as relevant to symbolically characterize the PI perception (Note: here the RELATIVITY in meaning of the terms 'stimulus-object' and 'stimulus-object effect' are in evidence, namely, that LOGICALLY speaking from the perspective of CE, CEE, and CEC percepta any PI percepta are stimulus-objects to the extent that they DETERMINE WHICH OTHER configurations of percepta will be conjured as RELEVANT symbolic meaning. But from the perspective of concrete subjective psychological experience, PI percepta are experienced as stimulus-object EFFECTS arising from natural or bodily stimulus-OBJECTS that cannot IN PRINCIPLE be directly known EXCEPT through their EFFECTS. This is a rather complex issue that will be discussed in detail in the next chapter).

4) Thus we are remaining consistent with the position that stimulus-objects cannot be directly known in themselves (with the exception of mind, however), but rather only as we directly experience their effects as perceptions, where the perceptions themselves are event-components. But in saying this what meaning is to be understood by the concept of 'knowing things in themselves'? It seems to the writer that knowing things by their EFFECTS means possessing an awareness of their mode of ingression or participation in individual consciousness (a view held by A. N. Whitehead, for example). Consciousness, then, is comprised of event-components each of which has a TERMINUS that DETERMINES their ingressed character as presentationally immediate or 'contributed' perceptual components. This is to say that our thought does not cause the independently contributed (thus unsymbolized) PI perception of 'green', for example; rather, thought determines how 'green' will be symbolically characterized. The case is similar for internal organic bodily phenomena such as pains, throbs, etc. Therefore, if our thought does not cause the ingressed nature of stimulus-object effects, and moreover, if the intrinsic nature of these effects are determined by correlative termini often located spatially apart from mind, hence existing independently of mind, then it may be concluded that these termini are the stimulus-objects that yield corresponding perceptual effects matters such as halucination are special cases -- although still capable of consistent comprehension by our formulations -- that will be considered later). Therefore, the issue of 'knowing things in themselves' ('knowing' is used here more specifically in the sense of 'experience through direct acquaintance') would seem to mean somehow BEING the subjective psychological experience of stimulus-objects. But if this means perceiving internally and externally LOCATED stimulus-objects through their EFFECTS, as in the case individual human beings, then we have made no progress in understanding this problematic issue. In any case, the notion of subjective psychological experience with organisms less developed than man seems purely a speculative issue for man has NO PERCEPTIONS of such phenomena (except INDIRECTLY, i.e., inferentially, in those few instances in which we OBSERVE the behavior of dogs, apes, etc.).

The reader may have noticed that the case in which ideational PI percepta function as

stimulus-objects was not considered. This was done so that special attention could be devoted to the problem, for it demands a moderate "tempering" of the 'contribuity' criterion.

a) Ideational PI percepta are stimulus-objects to the extent that they determine WHICH RELEVANT IDEATIONAL PROPENSITIES will be concomitantly conjured to meet the at least dipolar criteriological standards required for actualizing a complete atomic event. This is to say, for example, that a formerly understood concept of 'virtue' CAN ingress into the present occasion as ideational PI percepta and therefore ACQUIRE THE STATUS OF A SUBJECTIVE PSYCHOLOGICALLY MEANINGFUL CONCEPT BY BEING SYNTHETICALLY UNITED WITH MEANING-AS-DIRECTLY-FELT-RELATEDNESS OR CAUSALLY EFFICACIOUS PERCEPTA.

b) But in this capacity as a unique class of stimulus-objects, ideational PI percepta do not possess the same DEGREE of INDEPENDENCE intrinsically characteristic of natural and organic PI perceptions, for the former are synthetically CONSTRUCTED by MIND in a long process of symbolic discipline. Thus the subjective psychological MEANING of the concept 'virtue' as a 'contributed' event-component may have undergone an important definitional (evolutionary) modification, while bare natural and organic PI percepta are not subject to this type of contingency on mind: they ARE as they are directly perceptually experienced and this is the stubborn fact of the matter. It is in this sense, then -- in terms of the DIMINISHED INDEPENDENCE of ideational PI perception compared to its other two counterparts as they relate to mind -- that the criterion of 'contribuity' is somewhat tempered.

c) Since the LOGICALLY antecedent appearance of ideational PI percepta functioning as stimulus-objects determines the relevant CE, CEE, and CEC percepta that will be conjured to actualize a complete mental event, we may raise the question, Because ideational PI stimulus-objects are known intrinsically, through direct PERCEPTION, how is it that we do not DIRECTLY UNDERSTAND their causal DYNAMICS, involving the

ACTUAL PROCESS OF 'CONJURING' relevant propensities? Generally, the entire conjurational process is DIRECTLY EXPERIENCED as REFLEXIVELY ACTUALIZED. More specifically, the problem may be resolved by saying that it IS true that ideational PI percepta are known DIRECTLY as STIMULUS-OBJECTS, thereby rendering our RELATION with these stimulus-objects as different from natural and organic bodily stimulus-objects in that we directly experience the EFFECTS of the latter, but in the case of ideational PI stimulus-objects we perceive the stimulus-objects IN THEMSELVES. The question, then, is why do we not similarly perceive the dynamics of conjuration? Apart from physio-chemical considerations which are IN PRINCIPLE inaccessible as direct perception, it can be said that conjuration is a TEMPORALLY COMPRESSED ASSOCIATIVE PROCESS refined to such an extent that it is REFLEXIVELY accomplished in thought, thus obscuring conjurational dynamics from conscious awareness. However, as a TEMPORALLY EXTENDED COUNTERPART we need only refer to typical reflective thinking which is not reflexively actualized. Since reflexive conjuration is too rapid for reflective ascertainment, although its associated elements must be regarded as ELEMENTS of ATOMIC thoughts, it may be concluded that we CANNOT IN PRINCIPLE EXCLUSIVELY (directly) perceive SINGLE ideational PI stimulus-objects for they are event-COMPONENTS, while mind is actualized ONLY as COMPLETE EVENTS. Thus in this sense, ideational PI stimulus-objects are rendered as singularly unknowable. The ideational PI percept is directly experienced within the ENTIRE CONTEXT of a complete mental event, and can only be isolated as a distinct EVENT COMPONENT through analytical reflection. Therefore it must be concluded that COMPLETE MENTAL EVENTS occurring within the minds of individual human beings are the ONLY cases in which STIMULUS-OBJECTS or THINGS-IN-THEMSELVES can be known through DIRECT ACQUAINTANCE, and therein be CONCRETELY EXPERIENCED AS CAUSALLY GENERATING OTHER NOVEL STIMULUS-OBJECTS -- NAMELY CEC PERCEPTA -- WHICH CANNOT SINGULARLY IN THEMSELVES BE UNDERSTOOD AS CAUSAL AGENTS.

d) Another problem reveals itself at this point for it has been maintained that ideational

PI percepta occur logically prior to other concomitant CE, CEE, and CEC percepta because these latter classes of percepta ACQUIRE their unique conjurational determination as a group of synthesized propensities FROM ideational PI percepta occurring as a stimulus-object, thus designating WHICH propensities our of the potentially vast available resource will be selected as RELEVANT. To illustrate this function of PI percepta, using a NATURAL PI stimulus-object, when the contributed color 'red', for example, ingresses into our consciousness, the subjective psychological MEANING that is REFLEXIVELY ascribed to the ingressed stimulus-object effect is certainly not that defining 'dog', or the color 'blue', or the 'face of God'; it is obviously the symbolic characterization, 'RED'. This simple illustration demonstrates the DETERMINATIVE effect of PI percepta in terms of WHICH propensities will be reflexively deemed RELEVANT. From this, the problem at hand can be clearly formulated. In past discussions on symbolic development it has been repeatedly affirmed that denotative meaning or what is now also termed CEC are SIMPLIFIED, EMERGENT, CLEAR SYMBOLIC ELEMENTS that have been SYNTHETICALLY 'PROJECTED' from MEANING-AS-DIRECTLY-FELT-RELATEDNESS or what we presently define as CE percepta. Therefore CEC percepta LOGICALLY FOLLOW the appearance of CE percepta, for they are CAUSED BY CE percepta. Also we have argued that ideational PI percepta are, in effect, CEC percepta occurring spatio-temporally AFTER their ORIGINAL actualization. Thus the problem is the following one: we are compelled ALSO to say that ideational PI percepta are CAUSED by CE percepta, in the sense that as clear and distinct percepta they are SIMPLIFIED, 'PROJECTED' PRODUCTS of CE percepta. Consequently, CE percepta must be regarded to occur LOGICALLY PRIOR to ideational PI percepta, apparently leading us into a serious contradiction (for it violates the fourth criterion designating PI percepta). To refer to our former illustration, how could it be that it was NOT the ingression of 'red' PI percepta that caused us to symbolically characterize the directly perceived phenomenon as, in fact, 'red'? Similarly, using an example specifically involving ideational PI percepta, how could it NOT be true that in the train of thought

'My name is John Stevens', for example, the subjective psychological MEANING experienced by an individual in the initial stages of the event -- viz., 'My name is' -- did not ingress into the later state -- viz., 'John Stevens' -- in such a way as to DETERMINE THE FACT THAT 'JOHN STEVENS' WOULD BE THE NAME DESIGNATING 'MY NAME IS'. It is a concrete FACT of experience that COHERENCE and CONTINUITY in thinking are evidenced in our thought processes, and that these rational properties result from the FACT that individual MINDS are CONSCIOUSLY and INTELLIGENTLY AWARE of their subjective psychological proceedings. This is to say that an individual does not forget that his name is 'John Stevens', for example, when he has progressed to articulating the phrase, 'My name is'. More generally speaking, if we could not conjure relevant portions of past knowledge in their CLEAR CONCEPTUAL FORM (viz., as ideational PI percepta) thought could not advance at all. Because, for example, is it not our PREVIOUSLY established conception of 'VIRTUE' that, in effect, provides the preparational basis for the MORE CLEAR or LOGICALLY REFINED CONCEPT (of virtue) which springs into consciousness as a newly synthesized CEC perception. Thus the problem to be resolved -- and it must be resolved, for logical antecedence of PI percepta is required to coincide with the concrete facts of experience -- has been formulated. The resolution may be stated as follows:

1) It IS true that ideational PI percepta presupposes the synthetic 'projective' power of CE percepta, thereby rendering the latter class of percepta logically prior to the first.

2) But the crux of the matter lies in the fact that the CE percepta necessary for generating the ideational PI percepta in question were 'CONTRIBUTED' by a temporally ANTECEDENT mental event which, in effect, OVERLAPS the contemporary event, consequently ingressing into it, and thereby contributing the ideational PI perceptual component (functioning in the contemporary event as a stimulus-object) determining WHICH propensities will be deemed relevant for completing the contemporary event. In this way the

ideational PI perceptual component can STILL be regarded as LOGICALLY prior to its concomitant CE, CEE, and CEC components for it arises from, so to speak, a more PERVASIVE, or SPATIO-TEMPORALLY ENDURING SUBSTRATUM OF CAUSALLY EFFICACIOUS PERCEPTION THAT CAN TEMPORALLY EXTEND OVER MANY PARTICULAR EVENTS. This 'enduring substratum' of CE percepta will be analyzed and schematically represented in the section entitled "The Theory of Layers". It may be argued that this solution is an unsatisfactory one for it involves us in an infinite regress, logically speaking. This is true stated as such for the solution has been inadequately developed; a condition, in turn, resultanting from a heretofore insufficient exposition of the nature of CE percepta. It will be shown, however, in future chapters that the durational characteristics of CE percepta and their modes of appearance are typically sporadic in their occurrence, primarily as a result of the unpredictable schedule in which external and internal stimulus-object effects ingress into human organisms thus commensurately disrupting, or on the other hand, intruding novel factors into subjective psychological thought processes. Therefore from a purely logical point of view -- at this point in the discussion -- our proposed solution to the 'logical antecedence' issue seems to lead to an infinite regress. The writer, however, maintains that unwieldly concrete experience does not always avail itself to the neat systematization of our often overly simplified logical edifices. Thus the writer holds that the apparent logical difficulty will be resolved through a more comprehensive exposition of relevant concrete experiential facts which we shall endeavor to present in future chapters.

e) Now with respect to the problem originally raised to which this argument is addressed (namely, to prove that ideational PI percepta, in the sense of being legitimate 'contributed', LOGICALLY ANTECEDENT event-components, can qualify as genuine PI percepta similar to those presented immediately as natural and organic bodily PI percepta), it seems as though we are close to a solution. The issue is an important one for although it is readily

obvious to most of us that the ingression into our conscious experience of a 'tree' or 'throb' stimulus-object effect, for example, is the causal basis for symbolically characterizing each as 'the tree' or 'the throb', it is not so readily apparent that a FORMERLY established CONCEPT (an ideational PI percept functioning as a stimulus-object) of 'virtue', for example, should be the CAUSAL basis for the emergence of an intellectually more suitable CEC of 'virtue' originating in a SUCCESSIVE mental event, into which the less adequate concept of 'virtue' ingressed as an ideational PI perception. From the arguments presented above, we may now arrive at a conclusion by saying that:

1) We have tempered the 'contribuity' criterion by showing that ideational PI percepta fulfill the DIPOLAR standard necessary for a mental event in basically the same way as natural and organic PI percepta do, except with the warranted qualification that ideational PI percepta do not possess the rigid ontalogical INDEPENDENCE -- in the sense that their intrinsic nature as 'contributed' percepta is contingent upon the synthetic power of mind -- characteristic of natural and organic PI percepta.

2) Ideational PI percepta conceived as stimulus-objects cannot be directly perceived SINGULARLY AS SUCH for they are COMPONENTS of EVENTS and therefore must be understood (in their function of causally determining WHICH CE, CEE, CEC propensities will be conjured to fill-out the subjective psychological meaning of an event) as COMPONENTS, consciously ascertained ONLY within the far broader perceptual context in which they occur; viz., the entire mental event. This is to say that ideational PI percepta can only FUNCTION as stimulus-objects within the consciously intelligible context of a complete mental event. It means that the precise manner in which ideational PI percepta determine WHICH propensities must be conjured as relevant cannot be explained at this time for we have not yet discussed the nature of CE percepta, their dynamics of synthesis, and moreover, we

must introduce the 'Theory of Layers'. Hence at this point, the ultimate appeal for determining the cogency of our theoretical formulations is concrete experience.

3) The 'logical antecedence' issue was resolved by saying that ideational PI arises from pervasively enduring CE and CEE percepta capable of persisting (as substrata constituted of vague yet powerfully efficacious percepta) throughout many events. Again the ultimate ground for verifying this contention is concrete experience (the theoretical explanation for this view as it has relevance for mental events, conceived as concomitantly comprised of PI, CEC, CE and CEE percepta, will be presented as 'The Theory of Layers'). Specifically, for our present analysis, this means that it is possible for previously actualized event-components to ingress into contemporary events by overlapping them, thereby entering into the present occasion in a LOGICALLY antecedent manner as an ideational PI element that can DETERMINE WHICH ADDITIONAL PROPENSITIES MUST BE CONJURED, while yet remaining DISTINCTLY INDEPENDENT FROM THE CE, CEE, and PARTICULARLY CEC percepta that LOGICALLY SUCCEED the ideational PI percepta. Therefore the original problem which we had undertaken has been resolved. The resolution although complex and often abstract is, however, in direct concordance with the testimony of concrete experience in that it is QUITE CONSCIOUSLY EVIDENT TO US THAT OUR PREVIOUSLY DEVELOPED, CLEARLY CONSCIOUS CONCEPTS ARE FOREMOST IN IMPORTANCE AT THE OUTSET OF OUR MENTAL EVENTS, BUT THEN LOSE THEIR POSITION OF PROMINENCE AS THIS COMPONENT FLOWS INTO ITS DISTINCTLY UNIQUE SUCCESSOR (FOR WHICH IT HAS PREPARED THE WAY) THAT EMERGES IN A LATER STAGE OF THE SAME MENTAL EVENT. A major reason for considering this phenomenon in such great detail is that we want its logically ascertainable basis clearly explicated so that the rigorous constructs to be developed for explaining this transformative process may rest upon a firm, logically consistent foundation.

f) In this last stage of our argument, a summary remark will be made particularly with reference to how the resultant solution manifests itself in concrete subjective psychological experience. Hence it should be realized from the preceding analyses that the term 'CEC percepta', by definition and through experiential verification, PRESUPPOSES that it is only as a result of ideational PI percepta determinately conjuring relevant propensities that symbolically enhance and thereby make possible its CLEAR, MEANINGFUL actualization as a subjective psychological event-component, that CEC can SYNTHETICALLY EMERGE AS A LOGICALLY SUCCESSIVE EVENT-COMPONENT AT ALL. In short, this is in a sense demonstrating the LOGICAL FORM for the CONSTRUCTIVE ADVANCEMENT (or PROCESS) OF THOUGHT during future spatio-temporal occasions. Stated differently, if overlapping CE percepta did not FREQUENTLY (NOTE: NOT necessarily ALWAYS) synthetically project CLEARLY and DISTINCTLY ascertainable ideational PI percepta (thus functioning as stimulus-objects) into consciousness during the initial stages of mental events, then thought could NOT CONSTRUCTIVELY PROCEED AT ALL. Simply stated, this means, for example, that if the linguistic symbols 'My name is' could not be clearly conceptualized, the subjective psychologically meaningful phrase, 'John Stevens', could never be MEANINGFULLY articulated. From this we can conclude that CEC acquire their emergent actualization, as it has been formerly said with reference to denotative symbolic meaning, by being synthetically 'projected' (in coalescing organic propensities as transcendent concrescence) from that configuration of CE percepta designated as relevant to the ideational PI percepta which LOGICALLY PRECEDED its clear emergence as a stimulus-object. Of course an analysis of the theoretical mechanisms needed to explain this synthetic emergent process must be postponed to future discussion until sufficient theoretical preparation has been made to systematically analyze such notions as 'projection', 'layers', 'overlap', and so on. But again, lest the reader think at this point that we are engaging in mere irresponsible speculation, a concrete undeniable fact of experience is simply that THOUGHT CONSTRUCTIVELY ADVANCES AS A FUNCTION OF THE CONSCIOUSLY-REFLECTIVE

DETERMINED EFFORTS OF INDIVIDUAL HUMAN BEINGS. Yesterday's thoughts do not EXACTLY repeat themselves in the future. Granted, human thinking does too often fall into seriously stagnant habituative modes when the problem is viewed macroscopically, but a meticulous scrutinization of the problem reveals that such is not the case. Any new learning is evidence of intelligent, consciously reflective ideational advancement. Theoretically conceived, our personal experience is necessarily unique with the passing of each moment if only because of the dynamic ingressed perceptual effects of the natural world and our bodily organisms as they are concomitantly actualized, AS our experience, into coherent and continuous atomic events. But stated so generally, this fact can hold true for many high-ordered organisms. In a sense we obscure the uniquely distinctive nature of man by this partial characterization. For man experiences, more specifically, the ingressional effects of ideational PI percepta synthetically accompanied by the SYMBOLIC wisdom of past learning (as CE percepta) which in its extraordinary capacity for INTERRELATION provides the powerfully lucrative grounds for generating novel CEC, clearly pointing the way for further cognitively constructive advancement. Thus to not recognize that our past SYMBOLIC learnings (occurring as CE and ideational PI percepta) enter into the present subjective psychological experiential occasion in such a way that there is the possibility of finding a novel solution to a given problem as a result of one's reflectively determined efforts during the temporal lapse of the contemporary occasion (or event), is to overlook one of the most obvious facts about human existence. However, to attempt to theoretically EXPLAIN how this constructive endeavor specifically occurs is an undertaking of enormous difficulty and complexity -- as our enquiries well indicate. The ABSTRACTNESS of this task is a necessary consequent of a tacit unwillingness to deny the fact that the conscious thoughts of individual human beings play a causally determinative role in influencing their behavior.

CAUSALLY EFFICACIOUS PERCEPTA

It is obvious by now that CE and CEE percepta are in evidence in our experience as event-components and are thereby accessible to direct reflective conscious analysis. Also as we have recently seen PI percepta are the meaningfully bare, symbolically uninterpreted, immediately presented contribution from the external natural world or the internal organism; and further, indirect reference was made to the fact that their clear, distinct, and contemporaneous mode of occurrence was also characteristic of CEC percepta. Thus it is in CONTRAST with PI and CEC perceptions that CE percepta will be analyzed. Our method of explanation shall be one that will systematically elaborate the concept of vague symbolic connotative meaning by introducing appropriate theoretical constructs emphasizing the CAUSALLY CONSTRUCTIVE or synthetic character of this class of percepta as well as that of RELATEDNESS. It is this ideationally synthetic aspect of mental experience, whereby vast, previously learned relevant symbolic resources infusively enter consciousness as ideational propensities synthetically uniting with PI and CEC percepta as coherent and continuous mental events occurring in spatio-temporal succession, that contributes (beyond the FELT CEE perceptual character) the intellectually innovative quality to human experience. MEANING-AS-DIRECTLY-FELT-RELATEDNESS was a term specifically designed to accentuate and hence define the ontalogically unique phenomenon of consciously intelligible emotional-symbolic awareness, invariably exceeding the limits of human

understanding in terms of its subtle experiential breadth. But in our present analysis we must transcend this basically descriptive characterization and explore the constructive nature of meaning-as-directly-felt-relatedness, that is, the manner in which it CAUSES SUBJECTIVE PSYCHOLOGICAL MEANING must be investigated. Because of this additionally important function, the term 'meaning-as-directly-felt-relatedness' was redefined as 'causally efficacious perception'.

Minimal, dim conscious awareness is the first emergent appearance of what is definitionally regarded as CEE percepta. At this very low presymbolic, amorphous emotional level conscious awareness essentially means that primordially FELT subjective psychological experience is such that given constituent components are directly perceived as being in some sense sufficiently IMPORTANT to gain an organism's attention. Thus it is in becoming AWARE that experiential components have variable (perhaps) CONSPICUITY, and thereafter, becoming capable of making gross discriminations among components that the sense of IMPORTANCE arises. No doubt the INTRINSIC primitive desirability of 'pleasure' and the undesirability of 'pain' is a guiding factor in these emerging recognitions. This developmental process was discussed in moderately greater detail in our previous analysis of the 'sign stage' of symbolic acquisition. Another way of conceiving 'minimal awareness' is to conceptualize a given stimulus-object as being of sufficient ingressional intensity in its EFFECT upon an organism that

the stimulus-object effect is neurologically stored for future recollection. Of course it is impossible at this time to empirically verify this storing process; however, from rough observation of organismic behavior it is easily determined that prior learnings do in fact effectively influence presently emerging behavior. The primitiveness of this learning process as it is INFERRED to represent infantile subjective psychological experience cannot be overly stressed. We are engaging in the difficult and often erroneous endeavor of crudely portraying presymbolic subjective experience in which the only degree of consciousness that can be supposed to exist is a sporadic emotional class of percepta predominately determined, with regard to its differential qualitative states, by the nature of natural and organic PI percepta that are themselves, at best, only dimly evident. This domain lies far below the realm of symbolically disciplined emotion, and yet we are expositionally constrained to the instrument of language in attempting to accomplish this explanation. Thus much unavoidable linguistic sophistication permeates our analysis merely because we are using language as a means to conduct our speculations, but nevertheless, we still have some diminutive understanding of infantile states through both careful observation and reflective analysis of our personal inner states. It is not being maintained that an immature human organism makes "intentionally aware efforts" to "seek out meaningfully important" elements to make certain that the important elements are "rationally committed" to memory for

the "specific purpose of utilizing them for future intelligent enquiry". These, obviously, are Behavioral acts characteristic of mature symbolic intelligence. Rather, the primitive recognitions are undoubtedly far more consciously indeterminate and grounded in basic reflexive capacities spontaneously operative merely due to the human organism's intrinsic STRUCTURE. It would seem at this low level of conscious awareness that the perceived effects of objects of importance are frequently UNWITTINGLY stored in an automatic, undeliberated, subtle and cumulative manner. At the 'sign stage', the mere process of recording both unsymbolized, and later, symbolized data appears to be exclusively in evidence, while the more advanced concern for RELATING the collected (and hence stored) data must await the next major maturational advance.

The possibility for MEANINGFULLY relating neurologically stored perceptual information, as this phenomenon is contingent upon conscious experience, is solely a function of REFLECTIVE consciousness. This next major intellectual advance in human organism's symbolic understanding entails that an organism is capable of entertaining presently ingressing PI percepta while concomitantly recollecting an infusion of conscious perception pertaining to information learned in the past. Since PI percepta function as stimulus-objects -- and this is clearly evident in concrete experience, whether in terms of natural, organic, or ideational (including emotion) PI percepta -- all relevant stored ideational and/or emotional propensities are

REFLEXIVELY CONJURED to the ingressed effects thereby providing the grounds for reflective conscious synthesis; resultantly, a more complex emotion or concept emerges (typically as CEC). At infantile presymbolic levels an infant would visually experience the ingression of 'mother' stimulus-object effects while an infusion of concomitant CE percepta corresponding to the linguistic terms 'happiness', 'excitement', 'security', 'resolution of the painful feeling of hunger', etc. -- all learned in many prior experiential encounters with 'mother' stimulus-object -- would reflexively and SYNTHETICALLY come to bear upon the PI perception; hence ENHANCING ITS SUBJECTIVE PSYCHOLOGICAL EMOTIONAL MEANING FAR BEYOND THE MEANING OF THE PI PERCEPTION CONSIDERED SOLELY IN ITSELF (which, strictly speaking, would be inherently meaningless). At this stage of development, vaguely conscious FAMILIARITY of a given PI perception is the crude origin of reflective consciousness because the conditions for synthesis are in evidence. No longer is the PI 'mother' perception an undifferentiated percept among innumerable others; rather, due to the concomitant reflexive infusion of CE percepta, the 'mother perception' is, ADDITIONALLY, CAUSED to be experienced as "mother-is-happiness", "mother-is-pleasant excitement", "mother-is-security", "mother-is-pleasure", and so on. Thus when these many RELEVANT associations, in concomitant conjunction with the bare PI 'mother' perception, have been CONSCIOUSLY UNDERSTOOD AS RECIPROCALLY RELATED, REFLECTIVE CONSCIOUS SYNTHESIS has occurred. This same principle holds true for

ALL subjective psychological experience regardless of its level of sophistication.

From our immediately preceding analysis, it can be seen that the emergent subjective psychological states in which infants experience the emotional URGES of 'IMPORTANCE' and later 'FAMILIARITY' are possible in their functional capacity as emotional stimulus-objects because of a backlogue of slowly accumulated experience which, after a necessary amount of physiological maturation has occurred, is brought constructively upon PI percepta in such a way as to CAUSE -- in the sense of 'bringing into being as an original, ontalogically unique (symbolic) entity' -- the phenomena of IMPORTANCE and FAMILIARITY. Again, an illustration of this synthetic process is when an infant experiences the pleasurable feeling and taste of consuming food, and after repeated similar experiential feelings, the process becomes increasingly pleasurable, in addition, as a result of having experienced feeling on many previous occasions. This is to say that each successive feeding experience is not an entirely new one for the infant because similar past instances, as CEE and CE percepta or wisdom, synthetically unite with PI percepta thereby increasing the IMPORTANCE and FAMILIARITY of the ever-emerging present. The crude, emotionally embodied information haphazardly recorded in past feeding experiences is constructively associated with present feeding-percepta ultimately as a result of the organismic physio-chemical structure which lends itself to the promotion of concrescence due to its interpenetrative

relationship with inner and outer environments. In the higher-ordered case of 'familiarity', increased precision in conscious emergence is demonstrated when infants become excited in ANTICIPATION, for example, of the pleasure that will be experienced during feeding. Such anticipatory manifestations may be provoked by the natural PI percepta (i.e., the sight of) 'mother', or 'sight of bottle', etc. ingressing into the infant's consciousness. This example shows that CE percepta or past wisdom is playing an increasingly more powerful role in causally determining the subjective psychological meaning that is ascribed to bare PI percepta, FOR IN BOTH SITUATIONS THE PI PERCEPTA HAD NOT YET EFFECTED THE CONCRETE BODILY FELT IMPACT THAT WOULD CAUSE PLEASURABLE EXPERIENCES AS A DIRECT RESULT OF ACTUALLY TOUCHING MOTHER AND THE BOTTLE AND TASTING MILK. THE SPATIALLY DISTANT PERCEPTUAL APPEARANCE OF MOTHER OR THE BOTTLE WERE VERY ABSTRACT IN THEIR MEANINGFUL IMPLICATIONS IN CONTRAST TO ACTUALLY TASTING FOOD OR TOUCHING MOTHER.

Conscious awareness, then, at all levels of sophistication is essentially the Behavioral act of (in some sense) "taking account of", FROM A SUBJECTIVE PSYCHOLOGICAL FRAME OF REFERENCE, any given event-component of IMPORTANCE as it occurs in spatio-temporal passage; this 'important' awareness is in some way transformed into a physio-chemical analogue that can be stored for future recollection, whereby it will subsequently either be conjured through a REFLECTIVE effort or emerge REFLEXIVELY as an event-component. Recorded awareness may be theoretically conceptualized as lying on a

continuum of recognitional clarity and distinctness. As components of infant experience, they are indeed consciously vague; however, clarity increases with greater symbolic mastery. In reflective conscious awareness the situation is basically similar. When relevant previously learned CE percepta synthetically unite with contemporary PI and/or CEC percepta so as to causally determine the subjective psychological meaning attributed to the clear contemporary event-components, AND FURTHER, WHEN THIS CONCOMITANT PERCEPTUAL EMERGENCE CAN BE MEANINGFULLY UNDERSTOOD AS SYMBOLICALLY INTERRELATED, THE NECESSARY CONDITIONS HAVE BEEN FULFILLED FOR REFLECTIVE CONSCIOUS SYNTHESIS; A PROCESS BEGINNING ON AN UNCONSCIOUS LEVEL, AND THEN WITH INCREASED CONCRESCENCE, EMERGING INTO CONSCIOUS EXPERIENCE AS NOVEL COGNITIVE ASSOCIATION. Thus the DEGREE to which relevant wisdom can be clearly consciously RELATED in its concomitant appearance with contemporary event-components -- the necessary condition for reflective conscious synthesis -- is a phenomenon that can also be conceived to occur on a vague-to-clear continuum. In both categorical instances of conscious recording and reflective conscious synthesis the crucial factor to understand is that of 'CONSCIOUSNESS', for this represents the emergent ontalogical FRAME OF REFERENCE from which uniquely human SYMBOLICALLY MEANINGFUL determinations can be intelligently made; hence TRANSCENDING the lower-ordered realms of reflexive and physio-chemical causality (i.e., mechanistic, 'pre-sign', and 'sign', behaviors).

As it has been frequently said, emotional feeling, in its myriad degrees of discipline ranging from dim, sporadic emotion to emotion assuming the stable, determinate character of symbolic forms, is the "substance" or "medium" of mind-phenomena. We have also seen that the essence of intelligent mental behavior is in linguistic ideational forms or those ENTITIES that can be consciously organized into an indefinite number of RELATIONS. But in contrast to the entities, properties, and relations contributed to us as natural PI percepta, ideational entities, properties, and relations are, to be sure, very strange phenomena. Apart from the intuitively compelling "materiality-spirituality" issue, it is evident that ideational PI and CEC perceptual entities, LOGICALLY conceived in themselves as spoken sounds, written words, or silently conceived thoughts, are clear and distinct symbolic components. This is to say that the words 'tree', 'red', 'happiness', etc. are clearly and distinctly formulable (i.e., when they are SPOKEN, WRITTEN and silently THOUGHT) as simplified symbolic elements. However, in this act of abstracting the DENOTATIVE symbolic component from its CONNOTATIVE meaning, hoping thereby to accentuate the nature of the remaining clear and distinct element, a serious ERROR is committed IF our efforts are interpreted to mean that denotative symbolic elements can be MEANINGFULLY understood in disassociation from their NECESSARILY concomitant connotative elements. An excellent example of this is when one is amidst individuals who are speaking an unknown foreign language. Here is an instance where the

unknowledgeable listener is entertaining nearly pure DENOTATIVELY clear symbolic percepta. Hence the spoken words are regarded by the listener as a mere unintelligible series of natural PI perceptual sounds, for NO CAUSALLY EFFICACIOUS PERCEPTUAL MEANING CAN BE SYNTHETICALLY BROUGHT TO BEAR UPON THE NATURAL PI PERCEPTUAL SOUNDS SO THAT THEY MAY BE RENDERED INTELLIGIBLE AS SUBJECTIVE PSYCHOLOGICAL MEANING. This illustration roughly reveals the biploar nature of mental process. On one hand there are the unintelligible natural PI sounds, and in contrast, (in this case) there is an ABSENCE of what in normal intelligible linguistic communication would be defined as CEC, CE, and CEE percepta that fill-out bare contributed PI percepta with substantive subjective psychological meaning. Again the above example, as it roughly isolates the PI perceptual domain from the (unknown) concomitant symbolic realm, forcefully demonstrates the fact that causally efficacious percepta truly do CAUSE symbolic meaning. However, stated in this way, it is not yet evident that CEE and CE percepta are LOGICALLY ANTECEDENT to the final clear, distinct and simplified emergent or projected CEC perceptual product, keeping in mind of course that the whole logical chain of development as it occurs in its uniquely meaningful way is originally initiated by PI percepta functioning as a stimulus-object. But in any case, the particular class of perception to which our analytical attention will be devoted in this section has been rather clearly delineated, namely, the reader is asked to critically ponder those percepta

contemplated as LOGICALLY separate from all PI percepta and moreover those symbolic components defined as denotative or CEC percepta. We are left, of course, with symbolic components termed connotative meaning or MEANING-AS-DIRECTLY-FELT-RELATEDNESS; terms more recently defined as CE and CEE percepta.

Causally efficacious percepta manifest themselves as bewilderingly complex, integrated configurations of very vague-to-moderately conscious symbolic meaning concrescently yielding concise emergent symbolic components functioning as denotative, clearly consciously accessible focal points from which their multitudinous constitutive vague symbolic and emotional components can be raised to a CEC status through conscious reflection. Stated differently, this means that highly succinct or abbreviated ideational PI or CEC percepta can representatively organize VAST COMPLEX SYMBOLIZED HISTORIES OF RELEVANT (in response to a given stimulus-object, that is) LEARNED HUMAN EXPERIENCE, PORTIONS OF WHICH CAN BE RECALLED BOTH REFLEXIVELY AND THROUGH A REFLECTIVE EFFORT, THEREBY BEING SYMBOLICALLY RE-ENJOYED IN THE PRESENT. Every denotative symbolic element ephemerally appearing as an event-component has an accompaniment of immediately implicit though vaguely comprehended symbolic and emotional meaning (potentially capable of partial reflective explication, as CEC, in successive events) requiring years of learning for its development and efficacious implementation in intelligent problem-solving. The extensive storage and hence synthetic capacity of human

cerebral mechanisms enables relevant accumulated wisdom of the past to constructively enhance the meaning of contemporaneously contributed perception. The essential meaningful nature of conscious and reflective conscious EXPERIENCE is NOT predominately in its PI and CEC perceptual aspects -- although these dimensions are the most conspicuous facets of our experience, with the exception of natural PI perception; and of course, denotative symbolic components are ABSOLUTELY ESSENTIAL for high-ordered intelligent behavior --, it is rather the IMPLICIT CE perceptual concomitants emerging as experiential components out of an enormous resource of relevant, disciplined past experience that REFLEXIVELY INFUSES clearly conscious symbolic components with MEANING-AS-DIRECTLY-FELT-RELATED-NESS. Although this issue has been discussed in some detail on past occasions the distinction is so subtle that it warrants reconsideration in order that the reader may be quite clear on the point being made.

The issue concerns specifically what has been analyzed as MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Our position is that the PSYCHOLOGICAL PHENOMENON of CONSCIOUSLY AWARE MEANINGFUL UNDERSTANDING as it is actualized by any individual human mind in any given conscious experience arises from gradually subsuming originally primitive, unwieldly, nebulously conscious EMOTIONAL experience to extensive disciplining, hence transforming infantile primordial experience into highly sophisticated symbolic subjective psychological behavior. Further, at mature

levels of intelligence, symbolic behavior is such that it gains its conscious clarity, precision, and enormous flexibility in its power of REPRESENTATION from denotative symbolic simplification, but in saying this, it must be immediately understood, on the other hand, that the positive merits of denotative feeling are wholly contingent upon the concomitantly appearing, more vague symbolic components, CEE and CE percepta. This is to say that denotative understanding is possible because in its occurrence as CEC percepta an accompaniment of CE and CEE percepta IMMEDIATELY and REFLEXIVELY INFUSE denotative percepta with the relevant, meaningfully enhancing wisdom of the past. The essence of this wisdom is in the CONSCIOUSLY PERCEIVABLE quality of VAGUELY (because of its MANY contemporaneously delivered symbolic and emotional CE components) PERCEIVABLE RELATEDNESS that renders CEC (or ideational PI) perception EXPERIENTIALLY MEANINGFUL. This distinction, on a far more elementary level, is precisely the subjective psychological difference between Cassirer's 'sign' and 'symbol' stages. At the 'sign' stage, it will be recalled, a child is capable of verbally responding to given stimulus-object effects (e.g., the word 'mama'). Thus when mother articulates the word 'mama', the child reiterates the sound. But here there is not yet any manifestation of anything that could be regarded as MEANINGFUL UNDERSTANDING for the child's behavior is essentially REFLEXIVE with NO CONSCIOUSLY ACCESSIBLE INTERVENING SYMBOLIC COMPONENTS CAPABLE OF FUNCTIONING AS IDEATIONAL PI STIMULUS-OBJECTS FOR CONJURING

RELEVANT WISDOM IN ORDER THAT CONSTRUCTIVE, INTELLIGENT THOUGHT MAY TEMPORALLY EVOLVE. In short, there is as yet no evidence of SYMBOLIC RELATEDNESS INFUSING BARE NATURAL PI PERCEPTUAL UTTERANCE (of the child) with subjective psychological meaning, hence transforming the occasion into a meaningful mental event whereby the ingression of PI perception is synthetically united with CEC perception carrying with it a relevant history of CEE and CE perceptual wisdom that resultantly fills-out the event with DIRECTLY EXPERIENCED SUBJECTIVE PSYCHOLOGICAL MEANING. In contrast at the 'symbol' stage (or perhaps even the late 'sign' stage), the child initially DISCOVERS that bare reflexive utterance do have significance beyond mere playful, pleasurable vocal activity. Rather, they are concise representations of all the previously recorded (relevant) experiential (emotional) meaning that the child has derived from interacting with given stimulus-objects. For example, as it has been stated in our former analyses, the term 'mama' becomes a means of collectively subsuming under a single utterance such meaningful experiences as 'mama-pleasure', 'mama-food', 'mama-warmth', etc.; and moreover, these experiences can be re-enjoyed and projected as a passionate emotionally expressive urge toward the stimulus-object to which they refer. But more important, at later stages of symbolic development, children, after having established a repertoire of symbolic "tags", can attain the highest linguistic achievement, namely, they DISCOVER that the "tags" (which they have been using as devices for

re-enjoying past experience, categorically designating homogeneous experiences, and "projecting" emotionally meaningful expression, etc.) have MEANINGFUL RELEVANCE FOR ONE ANOTHER IN THEIR UNIQUE EXISTENCE AS AN INDEPENDENT SYMBOLIC REALM; ONE THAT CAN BE COGNITIVELY MANIPULATED APART FROM A DIRECT DEPENDENT ASSOCIATION WITH IMMEDIATELY INGRESSING NATURAL AND ORGANIC PI PERCEPTION. At this point the child has discovered the phenomenon of SYMBOLIC RELATEDNESS (of course the child may also discover a less abstract version of the phenomenon of RELATEDNESS in his more concrete experience involving the physical manipulation of natural objects). Beyond this triumphant discovery, the matter of further symbolic development becomes essentially one of learning additional symbols and developing an increased SOPHISTICATION in their usage. Therefore, during the 'sign' and 'symbol' stages the groundwork for subjective psychological MEANING as an EXPERIENCED phenomenon, and fruther, as an ontalogically unique CAUSAL FRAME OF REFERENCE is provided. In symbolically MEANINGFUL awareness we transcend reflexivity for words are no longer bare meaningless sounds, because one now becomes CONSCIOUSLY AWARE that REALITY in its appearance as entities, properties, and relations is being SYMBOLICALLY UNDERSTOOD in a DISCIPLINED WAY; a way that can be SUBJECTIVELY COMPREHENDED and ACTIVELY MODIFIED through a subjective effort. All this is possible from acquiring a number of symbolic "tags" and then discovering that the tags possess the potentiality for being INTERRELATED. The symbols can thereby be used to

descriptively REPRESENT reality as it is PI perceptually contributed, and moreover, portions of internal and external environmental states can be MODIFIED IN ACCORDANCE TO INTENTIONALLY PREMEDIATED, NOVEL, INTRINSICALLY SYMBOLIC CONFIGURATIONS. Thus, for example, the organic PI perception of 'thirst' promotes the successive utterance "May I have a glass of water?"; here is a simple example of a human organism intelligently (actively) endeavoring to modify his internal state of 'thirst'. However, even more basic, is the CONSCIOUS SUBJECTIVE UNDERSTANDING that the denotatively clear symbol 'water', for example, MEANS something at all. Hence the subjectively understood, MEANING RESULTS from a REFLEXIVE INFUSION of CE percepta such that the individual IMPLICITLY UNDERSTANDS that the term 'water' has a presymbolic 'taste', 'tactile quality', 'distinctive appearance', etc., and the symbolic attributes, 'good', 'cool', 'wet', 'fluid', etc. These many properties are immediately, though vaguely consciously, present in the usage of the term 'water' and constitute the wisdom that reflexively accompanies ANY symbolic term. Equally as important, however, is the fact that the many qualifications (which define and SET LIMITS to the meaning of words) occurring as CE and CEE percepta also EXPERIENTIALLY CAUSE the subjective psychological meaning of symbols in their emergence as the symbolic entities-in-process constituting mind. It is this phenomenon which we shall consider next.

In analyzing the concept of 'causality' specifically as it refers to CE and CEE percepta, although this concept will

have to be repeatedly scrutinized with increased care as we proceed to future chapters, a crude distinction is necessary at this point in order to distinguish between what might be loosely regarded as 'natural' and 'ideational' causality. Natural causality will be considered (FOR ARGUMENTATIVE PURPOSES ONLY) in the Humian sense of 'perceived temporal succession of phenomenal occurrence'. Ideational causality, however, will be defined in stronger terms; namely, in the sense of 'bringing into being or creating'. Thus in speaking of CE and CEE percepta as they come constructively to bear upon PI percepta thereby generating projected causally efficacious concepts (CEC), it is our view that the former two classes of percepta CAUSE CEC to be subjectively psychologically MEANINGFUL. Of course, in saying this, it is evident that all mental percepta are emergents from underlying correlative physio-chemical processes and are in this sense comprehended in terms of 'natural' causality. Therefore the concept of 'ideational' causality applies EXCLUSIVELY to the conscious and reflectively conscious or the subjective psychological domain. The latter domain, then, has a mode of causality that can be delineated as occurring in three ways: first, there is the way indicated in our previous analysis on PI percepta whereby ideational PI perception can function as stimulus-objects, hence CAUSALLY determining WHICH CEE, CE, and CEE percepta will be deemed as relevant for its symbolic elaboration; secondly, there is the type of causality that is our present concern, where CE and CEE percepta REFLEXIVELY INFUSE CEC percepta

in such a way as to CAUSE them to be subjective psychologically meaningful; and finally, there is the way in which CE and CEE percepta (Because of the STRUCTURAL nature of the human organism, concrescence involves, initially, synthetically uniting sensation with relevant preestablished organic propensities and then steadily proceeding to levels where physical processes yield emergent SIMPLIFIED PERCEPTUAL stimulus-object effects that constitute and thereby efficaciously influence the evolvement of mental events through their unique MODE of ingression.) CAUSALLY operate in PROJECTING ideational PI and CEC percepta: a topic to be considered in later chapters. Also it ought to be said that in our analysis of the three types of ideational causality we are obviously talking of an S-O-R concept of human behavior as distinct from a Behavioristic S-R view, for our concept of mind is, in effect, an elaborate exposition of the possible types of INTERVENING VARIABLES that can possibly causally operate between 'S' and 'R'. Further, and this point is less evident, the net effect of an 'ideational' causality view is that a materialistic-mechanistic concept of causality (what has been termed here as 'natural' causality) such as that maintained in all exact empirical sciences and some Behavioral sciences in an inadequate concept for, in principle, yielding a full account of human behavior; the Empirical Identity thesis also implies this conclusion. However, it does not follow that a subjective psychology can also "somehow" generate "extra" cause-effect explanations of human behavior. Rather, as it is becoming

apparent, our view is specifically designed to yield cause-effect explanations, but explanations involving different types of ENTITIES (viz., IDEATIONAL entities) than those of the natural sciences. Again this point will be subjected to additional exposition in future chapters.

To more clearly demonstrate the nature of, particularly, the SECOND type of ideational causality, let us envisage a circumstance where a man 'A' upon having read in a newspaper about the death of a close friend, proceeds to write a letter of condolence to a widow 'B'. The causal sequence of the entire act may be expressed for clarificational purposes in the following cumbersome manner. The newstype embodying the death notification ingressed into 'A' as natural PI perception, hence conjuring relevant CEE, CE and CEC REFLEXIVE INFUSIVE percepta actualized as a subjective psychological symbolic understanding of the death-phenomenon. Then, the CONSCIOUS UNDERSTANDING ANTECEDENTLY emerging most conspicuously as CEC percepta is successively transformed into IDEATIONAL PI perceptual clarity functioning as a stimulus-object that conjures various relevant (CEE and CE perceptual) ideational propensities which, in turn, REFLEXIVELY INFUSE the PI perception with wisdom, thereby rendering the occasion INTELLIGIBLE: and moreover, raising such event-components as 'great surprise', 'sorrow from losing a friend', 'sympathy for the widow', etc. It was from considerations such as these that 'A' was prompted to write to 'B'. Initially we can say that the CEC CLEARLY SYMBOLICALLY REPRESENTING the natural PI percepta issuing from the newstype, and further,

the CEC CLEARLY SYMBOLICALLY REPRESENTING the ideational PI percepta (now occurring as stimulus-object EFFECTS) 'surprise', 'sorrow', 'sympathy', etc., later when TRANSFORMED to function as ideational PI perceptual STIMULUS-OBJECTS are functioning in accordance to the first type of ideational causality. Also the third type of 'projective' causality is efficacious in yielding the above ideational PI and CEC percepta. But there is yet 'INFUSIVE' causality (the second type) which marks a decisive TRANSCENDENCE beyond materialistic-mechanistic or "blindly" reflexive causality such as that manifested by physio-chemical process, thermostats, electronic devices, and so on. Here, over and above the fact that stimulus-object EFFECTS (viz., the PI perceptions of 'newstype', 'surprise', 'sorrow', 'sympathy', etc.) issuing from stimulus-objects LOCATED in different environments (viz., in the natural world and the organism's own internal physiology) are efficaciously influencing the process of 'A' writing to 'B', there still remains the fact that both the first and third causal modes are NECESSARILY CONTINGENT UPON THE POSSIBILITY OF INFUSIVE CAUSALITY. The two key terms to be understood in explaining this phenomenon are 'WISDOM' and 'INFUSE'. In considering the nature and function of infusive causality we are discussing a matter that has been repeatedly contemplated in one way or another on many occasions in this paper; perhaps the most relevant analyses were those pertaining to MEANING-AS-DIRECTLY-FELT-RELATEDNESS. Thus it is our present purpose to specifically characterize the

phenomenon of infusive causality now that a great deal of preparatory explanation has been constructively developed. The illustration of man 'A' acknowledging the death of a friend, thereby prompting him to communicate his sympathies to widow 'B' is in fact a very complex causal circumstance; one that we need not at this time exhaustively explicate in order to elucidate the problem at hand. Infusive causality represents the essence of all subjective psychological MEANING as it ontalogically occurs as sequential atomic human EXPERIENCE. We have seen that this experience is an ever-emerging synthetic product of perception analytically classifiable into the three (general) Categories of directly accessible elements. Also it has been demonstrated that these perceptual elements can ingress into consciousness through diverse modes (viz., PI, CEC, CE, and CEE), partially distinguishable in terms of the degree of perceptual clarity manifested by the percepta as they appear in consciousness. Thus in any given experiential occasion percepta from different modes CONCOMITANTLY emerge as an inextricable unity termed an event. A remarkable feature of mental events is the multitudinous number of percepta that synthetically constitute these conscious unifications. Beyond the criterion of 'degree of perceptual clarity', perceptual modes are also characterized by indicating the <u>WAY</u> in which their perceptual products <u>FUNCTION</u> in generating mental events. This is to say that PI percepta function as stimulus-objects in determining WHICH propensities will be conjured as substantive event-components; CEC percepta function as the

simplified emergent products projected out of relevant CE and CEE percepta as a testimony of CREATIVELY ADVANCING thought processes; and finally -- and here we come to the issue of infusive causality -- CE and CEE percepta function in mental events in such a way as to CAUSE HUMAN EXPERIENCE TO BE SUBJECTIVE PSYCHOLOGICALLY MEANINGFUL. These latter two perceptual modes define those directly accessible products whose essential attribute is their vaguely conscious RELATEDNESS to one another. In this sense relatedness is wisdom and wisdom is all the relevant past learning that has been physio-chemically stored in such a way that it functions REFLEXIVELY, and through REFLECTIVE CONJURATION to INTELLIGENTLY ACTUALIZE ALL our myriad ideational Behavioral endeavors. Metaphorically speaking, this creative, causally infusive process has been described as the 'relevant wisdom of the past concomitantly coming constructively to bear upon the present occasion'; or more technically defined as 'the concomitant actualization of PI, CEC, CE, and CEE percepta during a particular event'. Also, logically analyzed in terms of previous argumentation, let us say that physio-chemical or natural causality, in contrast to ideational causality, does not entail (nor does it admit) the inclusion of MENTAL factors or variables in proposing various functional explanations for natural phenomenal occurrences. This is merely to say that scientists need not introduce psyches as efficacious variables in explaining the behavior of single-cell organisms, thermostats, etc., and more important, they do not have to introduce subjective psycho-

logical considerations in establishing these explanations: this latter point is, in effect, made by Whitehead in his definition of thinking 'homogeneously' about nature. However, for reasons formerly discussed in detail, such is not the case in explaining human behavior; mental phenomena DO intervene as causal Behavioral determinants. This is to say that human behavior cannot be exhaustively explained in the same methodological ways that natural phenomena are explained. In fact ALL explanations of physical phenomena and intelligent cognitive behavior in general must presuppose A PRIORI subjective psychological behavior FOR THEIR VERY POSSIBILITY OF OCCURRENCE. Basically, this is grounded in the fact that human intelligent behavior necessarily entails efficacious consciousness and reflective consciousness whose intellectually constructive powers result from their intrinsic SYMBOLIC nature. Therefore a discussion of symbolic behavior necessarily leads to the subjectmatter of a subjective psychology. The ONLY facets of subjective psychological behavior that are LEGITIMATELY accessible to an objective psychology are ideational presentationally immediate (PI) and causally efficacious conceptual (CEC) perceptual event-components WHEN THEY ARE VERBALLY ARTICULATED, GESTURALLY EXPRESSED, OR MANIFESTLY WRITTEN. Thus an objective psychology cannot in principle have THEORETICAL AND METHODOLOGICAL access to what we have defined as CE and CEE event-components in their CAUSALLY INFUSIVE CAPACITY (or to the other types of ideational causality, for that

matter). The extraordinary importance of this can be concretely understood with reference to our former example involving subjects 'A' and 'B'. It was absolutely necessary that subject 'A' was capable of CONSCIOUSLY UNDERSTANDING AS SUBJECTIVE PSYCHOLOGICALLY MEANINGFUL EXPERIENCE the 'printed death notification', and his experiences of 'surprise', 'sorrow', 'sympathy', etc., in order to communicate condolences to widow 'B'. Thus the INDETERMINATELY LARGE NUMBER OF MENTAL (PERCEPTUAL) EVENT-COMPONENTS (occurring as PI, CEC, CE, and CEE percepta in their INEXTRICABLY RELATED ACTUALIZED STATES) that were NECESSARY for 'A' to write to 'B' represent a COMPLETELY UNIQUE class of ONTALOGICAL CAUSAL DETERMINANTS THAT DO NOT IN PRINCIPLE INTERVENE IN NATURAL CAUSAL RELATIONS. Therefore, the subjective psychological meaning, for example, of EACH WORD in the death notice and of 'surprise', 'sorrow', 'sympathy', etc. are infused through and through with a history of previously acquired relevant wisdom that CAUSES the words, individually and in their collective form, to possess the meaning that they do. More specifically, the word 'sorrow', for example, occurring as a bare transitorily entertained CEC perceptual event-component in a given train of thought may IMPLICITLY contain in its moment of subjectively meaningful actualization in the mind of subject 'A' the CE percepts 'great sadness', 'personal loss', 'waning enthusiasm about living', 'the recollection of losing a loved-one', 'many enjoyable experiences that will no longer be shared', etc. All of these vaguely conscious,

implicit CE perceptions (and undoubtedly MANY more similar cognitive factors) would concomitantly accompany the mere thought of 'sorrow'. Further, subject 'A' in pondering his inner state termed 'sorrow' would be simultaneously gripped by highly vague but powerfully efficacious substrata of experientially potent CEE percepta that may yield sporadic (uncontrollable) fearful, despairing, or compassionate attitudes about his own existence. This illustration merely hints at the profound complexity and existential uniqueness of HUMAN experiential phenomena -- whether intense or matter of fact -- that arises from causally infusing CE or ideational PI percepta with relevant CE and CEE perception. Thus it is in this way that what each human being understands through direct acquaintance as subjective psychological EXPERIENCE is CONSTRUCTIVELY SYNTHESIZED, thereby yielding an ontalogically unique realm of phenomena possessing their own characteristic entities, properties, and mode of relation whose DYNAMIC COGNITIVE CONFIGURATIONS ARE STRUCTURALLY symbolically CONCORDANT with those of natural, organic and emotional presentational immediate perceptual deliverances. Anyone who ponders these distinctions will understand that the notion of natural or materialistic-mechanistic causality can have only limited applicability in systematically investigating human behavior unless the presuppositional basis upon which this theory is predicated (with respect to the nature of its entities, properties, and relations) is modified to consistently incorporate those entities demanded by ideational causality,

efficaciously operative within a subjective psychological framework.

In our preceding discussion on infusive causality, hopefully it is clear at this point that even what we may regard as the simplest of linguistic concepts are thoroughly infused with vaguely conscious CE and CEE percepta, over and above their merely denotatively evident symbolic form. Thus CE and CEE percepta in their infusive function are so numerous and synthetically potent that originally amorphous emotional experience can become subsumed to such extra-ordinary discipline that MEANINGFULLY INTELLIGENT subjective psychological experience can gradually emerge. Moreover, CE and CEE percepta can be said to CAUSE subjective psychologically MEANINGFUL experience in that, due to the RELATEDNESS among symbols -- the intrinsic property that enables linguistic symbols to be subjectively meaningful at all -- these percepta infuse denotatively clear symbolic components in a way that renders the clear elements personally meaningful by UNITING them with OTHER (though vaguely conscious) RELEVANT linguistic symbols. Thus, denotative clarity is synthetically co-existent with connotatively vague symbolic and emotional meaning. But in saying this we are actually maintaining that denotative symbolic components acquire their substantive subjective meaning from -- OR ARE CAUSED TO BE PERSONALLY MEANINGFUL AS A RESULT OF -- a concomitant INFUSION of previously learned WISDOM. In conjunction with this 'infusive' process it was previously implied that infusion occurs in two distinct ways, namely, through

REFLEXIVE and REFLECTIVE conjuration. The most conspicuously apparent distinction to be made in distinguishing the two types of functions from one another is their TEMPORAL DURATIONAL DIFFERENCE; that is, the former synthetic process occurs almost instantaneously, while the latter requires time for consciously reflective analysis. For example, keeping in view our discussion on reflexive causality, let us ponder the interrogative statement, 'What is man's true nature?' in light of REFLEXIVE and REFLECTIVE infusive causality. First, it is evident that the SUBJECTIVE PSYCHOLOGICAL MEANING OF EACH PARTICULAR WORD is understood almost instantaneously merely upon consciously attending to the linguistic terms. Mature readers typically do not have to exert as great an intellectual effort to understand the term 'man', for example (in its common-sense usage) as it WAS required of them when INITIALLY learning the word as a child. Therefore, CE, CEE and CEC percepta are almost instantaneous actualized when PI perceptual printed words ingress into consciousness. The case is quite similar when comprehending the words collectively as a complete question, although this requires a somewhat longer durational elapse. Again, the CEC 'man' is immediately infused by the CE percepta 'a term designating human beings', 'men, women and children conceived collectively', 'all men at all time', 'an intelligent species of animal', 'a class of creatures generally possessing two legs, a head, two hands, etc.', and so on, not even to mention many possible CEE percepta. There is little discernible consciously deliberate effort

required for UNDERSTANDING the words individually or collectively. However, in contrast to this easily executed process, essentially involving conjuring past wisdom to come to bear upon the present occasion, there is the far more complicated (but in principle SIMILAR phenomenon; that is, of conjuring formerly established wisdom to the present) process entailing TEMPORALLY PROLONGED analytical reflection. This is a situation in which "solutions", "understandings", etc. are NOT REFLEXIVELY yielded; rather, careful, gradually constructive deliberation is required for problem solving. The two experientially distinct ways in which CEE and CE percepta may be conjured as being causally infusive can also be understood by saying that reflexively infusive causality characterizes those percepta whose ingression as event-components is so spontaneous and massively pervasive that they provide an enduring, uninterrupted, qualitatively suggestive flow of perception which we directly perceive as MEANINGFUL, FAMILIAR, TYPICAL subjective psychological experience. Of course, stated in this way, we cannot precisely discriminate amongst PI, CEC, CE and CEE perceptual event-components. Hence we must make a determined effort to focus our analytical attention upon, particularly, the causally infusive dimension of experience. We must develop a deep and accurate sensitivity to the truly profound complexity of our personally conscious events, and understand how experientially barren (and, in fact, logically and psychologically unintelligible) our awareness would be, devoid of past wisdom. Again, in contrast to reflexive

infusive causality which enables us to understand our many matter-of-fact event-components as spontaneously intelligible because of automatically conjured wisdom that enhances conscious awareness with an enduring substratum of experiential intimacy with our inner and outer environments, reflective infusive causality yields an overriding stratum of CEE and CE percepta lacking the property of spontaneously enduring (symbolically) meaningful enhancement characteristic of CEC and PI perceptual event-components. Rather, reflective infusive causality is far more sporadic, meaningfully unpredictable, qualitatively variable in its perceptual enhancement, and moreover, difficult to CONSTRUCTIVELY conjure. Reflective infusive percepta are, in fact, the transcendent crest of organic concrescence as directly perceived in subjective psychological experience. But this frontier of ideational synthetic emergence NECESSARILY PRESUPPOSES the faithfully enduring substratum of reflexive infusive causality, for it is ONLY from this subordinate PRECONDITIONAL CONSCIOUS FRAME OF REFERENCE that reflective synthesis can be fruitfully actualized at all. Metaphorically speaking, it is only in light of past wisdom that we may intelligently understand the present and hence imaginatively proceed into the future. In our more technical terms this means that higher-ordered conjuration of reflectively infusive CEE and CE percepta can emerge only IF reflexive infusive causality has previously MEANINGFULLY elucidated CEC perception so that it can be transformed into ideational PI perceptual stimulus-objects thereby designating WHICH CE,

CEC and CEE percepta will be regarded as its relevant propensities -- AND FURTHER, WHICH CE AND CEE PERCEPTS WILL EMERGE IN A TRANSCENDENT REFLECTIVELY INFUSIVE CAPACITY. We are now discussing some of the causal dynamics of mental events -- the only stimulus-objects that can be known in themselves -- in their ontalogically unique function as stimulus-objects. It has been proven by the EMPIRICAL IDENTITY thesis that mental events are NOT logically identical to their correlative underlying physio-chemical processes. One extremely important implication of this conclusion is that mental events can function as a logically distinct class of stimulus-objects over and above those of materialistic mechanism. We have formerly shown that this distinct type of ideational causality arose from the phenomenon of MEANING-AS-DIRECTLY-FELT-RELATEDNESS operating in synthetic conjunction with denotative meaning in their actualized SYMBOLIC, essentially linguistic state. More recently, it was shown that connotative symbolic meaning has also reflexively and reflectively infusive causal characters. It is primarily through these latter two factors that mental events acquire their ontalogically unique ideational causal status, hence transcending physio-chemical or natural causality. Briefly stated, this means that the less consistently productive though synthetically potent mechanism of reflective infusive causality must necessarily function resultantly from preconditional reflexively infusive causality which, through CEE and CE perceptual enhancement, provides a basic subjective

psychological frame of reference that initially CONSCIOUSLY isolates an object of IMPORTANCE for human organisms. The significance of this seemingly trivial point is that if an object of concern could not be clearly and meaningfully conceptualized at the outset of its apprehension, then more profoundly analytical, successive thinking would not be possible. Since human beings can, however, easily conceptualize many objects of importance as a result of gradually developed reflexively infusive causality, and because clear initial conceptualization of PI perceptual phenomena is a necessary precondition for higher-ordered reflection, it follows that conscious understanding is a logically requisite factor --- OVER AND ABOVE (in fact, operative) NATURAL CAUSAL CONSIDERATIONS -- in producing humanly intelligent Behavioral responses to given stimulus-conditions. In the latter section of "Chapter Two" it was argued that although conscious events were necessarily contingent upon underlying physio-chemical correlates for their possible emergence, on the other hand, further increased organic concrescence (or intellectual development) was also contingent upon the synthetic power of conscious events IN THEMSELVES through their capacity to function as stimulus-objects, i.e., with regard to promoting intelligent awareness which is to say that mental events can additionally CAUSE physio-chemical synthesis in the transcendent process of concrescence. Therefore, in clearly and meaningfully initially conceptualizing a given object of importance -- an elementary action whose very possibility rests in great

part upon the fact that the PI perception can be thoroughly reflexively infused with CEE, CE and CEC perception -- we are (in effect) conjuring a multitude of relevant organic propensities that consciously emerge as our meaningful apprehension of an object of concern. In the more sophisticated process of reflecting analytically upon the object, we are, roughly speaking, conjuring all those relevant organic propensities that will yield us a spontaneous understanding of the object; but moreover, there are also additional propensities that consciously emerge as reflectively infusive CEE and CE percepta corresponding to ANY POSSIBLE CONSCIOUSLY DETERMINABLE RELATIONS that the object of concern may have WITH ANY PREVIOUSLY ESTABLISHED RELEVANT WISDOM. Reflective infusive causality (in its sporadically fecund and temporally prolonged mode of cognitive productivity) is clearly in evidence when, in its appearance as determinately transcending a stratum of subordinate reflexive infusively meaningful awareness, it occurs in consciously evident distinction from the former as CEE and CE percepta representating NOVEL or ATYPICAL, INFUSIVELY CONJURED (AS A RESULT OF AN OFTEN LABORIOUS, PERSISTENT, CONSCIOUSLY DETERMINED REFLECTIVE EFFORT) RELATIONS WITH OBJECTS FORMERLY UNNOTICED TO HAVE POSSESSED RELEVANT MUTUAL RELATIONS. Again as it had been expressed in the latter portion of "Chapter Two", high-ordered reflectively infusive causality has its originative basis ultimately in UNCONSCIOUS PHYSIO-CHEMICAL processes. This means, more specifically, that when a reflective effort is

devoted to some object of concern, a large number of reflexively infusive ideational propensities are conjured to consciousness; but frequently as the reflective effort persists, an increasing number of ATYPICAL propensities begin to consciously emerge, indicative of novel modes for RELATING objects. THIS IS THE ESSENTIAL MANIFESTATION OF REFLECTIVELY INFUSIVE CAUSALITY. Our theory of cognitive synthesis implies that when objects of importance are reflectively contemplated, the objects (perceived as PI stimulus-object effects and hence successively functioning in conscious experience as stimulus-objects which conjure all relevant symbolic wisdom rendering the bare 'effects' consciously intelligible) activate, concomitant with conscious understanding, correlative physio-chemical processes which when PERCEPTUALLY ENTERTAINED IN CONSCIOUS EXPERIENCE (AS A RESULT OF REFLEXIVE INFUSION, AND MOREOVER, BECAUSE OF THOSE CORRELATIVE STATES CORRESPONDING TO 'PERSISTENT REFLECTIVE EFFORT') BEGIN TO PROGRESSIVELY ENGAGE IN PHYSIO-CHEMICAL CONCRESCENT SYNTHESIS; STARTING INITIALLY AT AN UNCONSCIOUS LEVEL OF PURELY ORGANIC CEREBRAL FUNCTIONING, AND AS THIS MODE OF INTEGRATION BECOMES STEADILY MORE COMPLEX AND INTERRELATED WITH OTHER PREVIOUSLY ESTABLISHED RELEVANT PROCESSES, THE NEWLY SYNTHESIZED PRODUCTS EMERGE INTO CONSCIOUS EXPERIENCE AS REFLECTIVELY INFUSIVE CE AND CEE PERCEPTA. The typical concretely conscious manifestation of this complex underlying process occurs when, for example, after having reflected upon a matter of concern for periods of time, much to our surprise

the answer springs into consciousness. Now if we carefully analyze this "matter-of-fact" phenomenon it will be seen that we DO NOT INTENTIONALLY CAUSE A SPECIFIC NOVEL IDEATIONAL SYNTHESIS; RATHER THROUGH THE ABILITY TO CONSCIOUSLY FOCUS ATTENTION UPON A SPECIFIC OBJECT OF CONCERN (i.e., the problem) AS A RESULT OF REFLEXIVE INFUSION, AND FURTHER, BECAUSE OF THE ABILITY TO CONSCIOUSLY REFLECT (i.e., conjure wisdom to the present) UPON THE PROBLEM AS A RESULT OF REFLECTIVE INFUSION, THE NECESSARY PRECONDITIONS FOR EMERGENT IDEATIONAL SYNTHESIS (ORIGINATING IN UNCONSCIOUS PHYSIO-CHEMICAL REGIONS) HAVE BEEN ESTABLISHED. This is the process of "setting the stage" for creative ideational emergence AS RENDERED POSSIBLE BY THE PRECONDITIONAL FACTORS OF CONSCIOUSNESS AND REFLECTIVE CONSCIOUSNESS as well as operative physio-chemical mechanisms. Thus we do NOT personally cause ideational synthesis in the sense of knowing precisely "which elements" will be synthesized by mind, and thereby proceed to "deliberately" unite them as though it were a carefully controlled chemical experiment where components are known and hence the synthetic results can be accurately predicted. The causal role of conscious mind is to "set the stage" for cognitive synthesis, having readily available (as reflexive and reflective infusive CE and CEE percepta) all the relevant wisdom that can be contemporaneously conjured for constructively resolving problematic circumstances. We cannot rid ourselves of the classical Greek notions of functional harmony or virtuous behavior (in conceiving our model for mind) as an important

factor in the global execution of intelligent behavior and the resultant enjoyment of genuinely humane personal experience.

The phrase 'persistent reflective effort' was used above as the general consciously experiential correlate to a large group of physio-chemical process that, in conjunction with those corresponding to 'reflexive infusive percepta', were theoretically alleged to unite in concrescence so that ultimately, NOVEL reflectively infusive perception would spring into consciousness, thereby promoting cognitive advance. We must at this point devote our attention to clarifying the notion of exercising a 'persistent reflective effort', for after all, this is a central dimension of the CONSCIOUSLY DELIBERATE BEHAVIOR of intelligent problem solving. Formerly it was said that the reflexive infusion of percepta is a process readily capable of being perceived as providing a basic, temporally enduring substratum of MEANINGFUL FAMILIARITY in response to our direct experience of reality. This was said to be the case for reflexively infusive percepta caused the possibility of symbols (primarily with respect to linguistic symbols) -- those instrumental ideational devices enabling primitive emotional feeling to be subsumed to discipline, hence rendering intelligent behavior possible -- by enabling PI perception to be concomitantly united with denotative symbolic components, reflexively infused by numerous connotative components. Therefore it can be said that reflexively infusive perception as it synthetically unites with clear and distinct symbolic

perceptual components together constitute a major portion of the event-components comprising complete mental events at any given time. In fact, the only possible components that remain available to fill-out complete events are natural and organic PI percepta, and those defined as reflectively infusive perception that must actually be regarded as ATYPICAL OR NOVEL CEE and CE percepta which emerge in CONTRAST to those deemed as reflexive infusively relevant by PI perception functioning in their capacity as stimulus-objects. From this, it was previously maintained that reflective infusive perception, becuase of its contrasting, unpredictably novel, sporadic ingressive character, concomitantly transcended its consistently enduring reflexively infusive perceptual substratum (with respect to its conspicuously novel ideational character). We saw that this synthetically transcendent mode of ingression was, so to speak, the crest of novel concrescent emergence as it manifests itself in conscious perception. The two concomitantly occurring contrasting modes of reflexive and reflective infusive CEE and CE perception may be diagramatically expressed as follows:

FIGURE 11

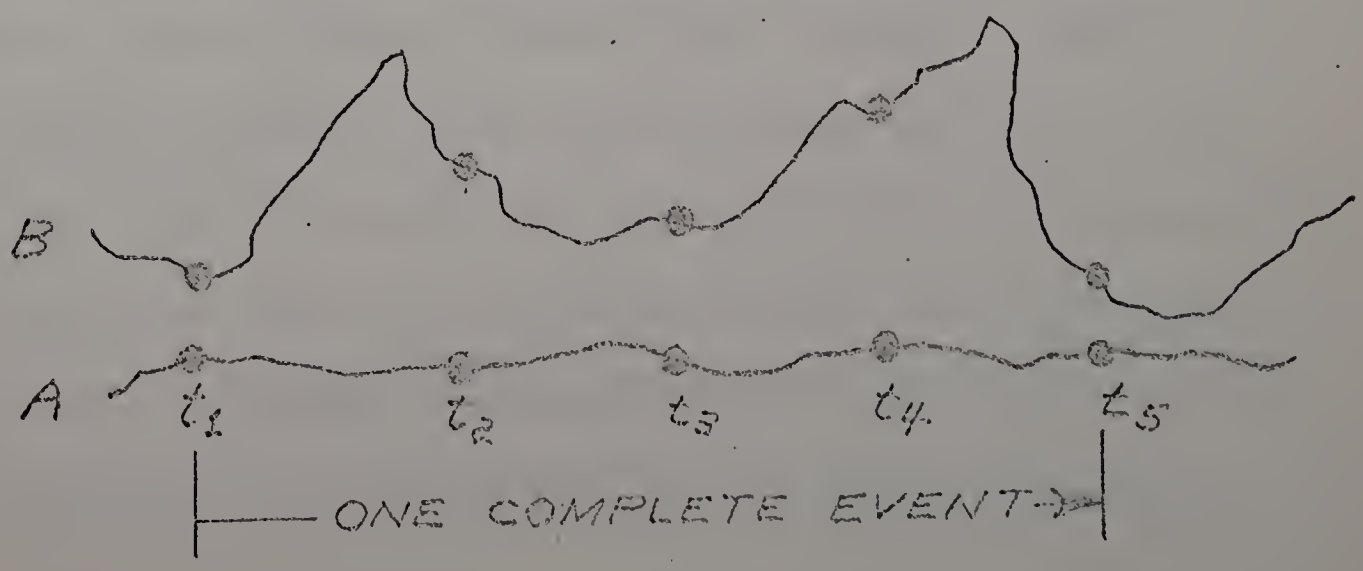


Figure 11 represents the topology of a complete event (t_{1-6}) involving the ingression of reflexive (line A) and reflective (line B) infusive perception as they function in CONSCIOUSLY ASCERTAINABLE CONTRAST with one another during reflective conscious behavior. Line A represents the spontaneously understood meaning that is brought to bear upon PI perception as the meaning symbolically participates in consciousness as reflexively infusive perception. Line B represents the sporadically occurring, potently (novelly) suggestive CEE and CE perception, symbolically indicative of novel ways for RELATING objects of concern to other relevant KNOWN objects in order to promote a more intelligent comprehension of the former's nature, as they originate in consciously ascertainable contrast to the reflexively infusive perceptual substratum necessarily persisting during conscious reflection. In answer, then, to the original problem of technically defining the mental act of exercising a 'persistent reflective effort', as this behavior could be regarded as a particular configuration of event-components having, in principle, determinate physio-chemical correlates, let us say that it essentially consists in the CONCOMITANT, consciously ascertainable (contrasting) ingression of REFLEXIVE and REFLECTIVE INFUSIVE PERCEPTION into our mental events. More specifically this is to say that what we directly experience in reflective consciousness, over and above PI and CEC event-components, is a consciously distinguishable VARIABLE AMPLIFICATION OF MEANINGFUL UNDER-STANDING (EMBODIED WITHIN REFLECTIVE INFUSIVE CEE AND CE

PERCEPTION) CONSISTING OF THE NOVEL RELATIONS PERCEIVED AMONG GIVEN OBJECTS OF CONCERN (AS THIS INFORMATION EMERGES INTO CONSCIOUSNESS FROM UNCONSCIOUS SYNTHESIS), AS THIS TEMPORALLY PROLONGED AWARENESS IS VIVIDLY ACCENTUATED IN CONTRAST TO A SUBSTRATE OF SPONTANEOUS (REFLEXIVELY INFUSIVE) UNDER-STANDING ISSUING FROM THE CONSTITUTIVE LINGUISTIC SYMBOLS NEEDED TO CONCEPTUALIZE THE REFLECTIVE EFFORT THROUGHOUT ITS DURATIONAL EXISTENCE. Essentially, we are emphasizing the cognitively experienced CONTRAST between REFLECTIVE and REFLEXIVE INFUSIVE perception as they are concomitantly actualized with relevant PI and CEC percepta during a complete event. Thus it is from this CONTRASTING, THE PRECONDITIONS OF WHICH NECESSARILY PRESUPPOSE A PRIORI THAT CONSCIOUSNESS AND CONSCIOUS REFLECTION BE CONSIDERED AS CAUSAL DETERMINANTS IN PRODUCING HUMAN BEHAVIORAL RESPONSES, that perceptual testimonies of NOVEL RELATEDNESS among objects of concern are permitted to emerge into conscious experience. Within this phenomenon lies the SYNTHETIC POWER of human intelligence. All this was metaphorically implicit within the often mentioned phrase, 'the wisdom of the past is concomitantly brought constructively to bear upon the present occasion so as to enhance its meaning'.

In our distinction between 'natural' and 'ideational' causality it was said that we know the former type in the sense of 'perceived temporal succession', and at this point, the latter type of causality, specifically as it is embodied within subjective psychological phenomena as REFLEXIVE and REFLECTIVE INFUSIVE CEE and CE perception,

can be DIRECTLY PERCEIVED AS CREATIVELY CAUSAL in the sense of CAUSING PI and CEC perceptual deliverances to be subjective psychologically MEANINGFUL (i.e., causality in the sense of "bringing into being"). This is to say that we DIRECTLY EXPERIENCE CAUSALITY as it refers to the modes of synthesis by which event-components are actualized as complete events, DISTINCT FROM directly experiencing temporal succession. In the former case we directly experience causal synthesis in the sense of having direct intelligible awareness of reflexive and reflective infusive CEE and CE percepta UNITING IN UNIQUE NEXUS with PI and CEC percepta.

Our analysis of causally efficacious perception, for the present time, may be concluded by saying that from an early concept of regarding the subjective psychologically 'substantive' portion of linguistic symbols as constituted by 'connotative meaning', then MEANING-AS-DIRECTLY-FELT-RELATEDNESS, and finally, causally efficacious and causally efficacious emotional (keeping in view our former characterizations of emotional feeling) perception, it must be clearly understood that the very possibility of humanly conscious, intelligible experience as an ontalogically unique class of phenomena is heavily contingent upon the possibility of reflexive and reflective infusive causality as being operative factors in human behavior. This assertion still remains in full concordance with a fundamental assumption underlying our entire analytical enterprise, namely, that the intrinsic nature of mind as a unique entity, and thereby thought, can be exhaustively explicated,

in principle, by reflectively analyzing its perceptual constitution and then the various ways in which percepta ingress into consciousness; an analytical process principally revealing the LOGICAL FORM of subjective psychological experience that, in effect, universally characterizes the structure all possible mental events. This initial stage of analysis provides the basis for a logically successive stage of enquiry involving a systematic investigation of the actual CONCRETE experiential modes of RELATION among event-components during PARTICULAR spatio-temporal occasions occurring within given individuals and groups of individuals. This latter stage of enquiry entails two distinct types of METHODOLOGICAL investigation:

1) a philosophical psychological mode of analysis, similar to the first stage of enquiry, that will systematically explicate the (reflectively) consciously ascertainable modes of relation among the components of complete events in response to given stimulus-conditions.

2) a subjective psychological, genuinely EXPERIMENTAL approach to investigating modes of relations among the components of complete events in response to given stimulus-conditions. Subjective psychological enquiry will have frequent occasion to draw upon the theoretical constructions devised through philosophical psychological analysis for formulating testible hypotheses, as well as draw upon its own unique resources in pursuing (in conjunction with an objective psychology) the ultimate ideal goals of presenting a complete explanation of human behavior, and moreover, developing effective means for promoting Behavioral functional virtue.

Reflexive and reflective infusive CEE and CE perception can only be understood as causally functional or operative within the context of complete unified mental

events, and it is only in this mode of perceptual synthetic actualization that mental events can be regarded as a class of stimulus-objects that are directly knowable in themselves. Complete mental events are stimulus-objects in the sense that:

a) Because of reflexive infusive causality, subjective psychologically MEANINGFUL concepts can be consciously entertained spontaneously as CEC with accompanying substantive CEE and CE perceptual wisdom when they come synthetically to bear upon PI percepta. This establishes the first precondition of CONSCIOUSLY ATTENDING TO A MATTER OF CONCERN, in itself an ontalogically unique phenomenon capable of occurring only within the context of mental events.

b) The second precondition is met when executing a 'persistent reflective effort' based upon the emergent occurrence of reflective infusive percepta whose suggestive implications are sporadically meaningful, and mode of occurrence is time consuming because these percepta embody novel suggestions for RELATING relevant objects that are NOT MANIFESTLY OBVIOUS, hence demanding that all relevant perceptions be pondered at length in their CONCOMITANT CONCEPTUAL PROXIMITY with one another. Due to this FACT of 'limited obviousness', reflective infusive percepta are not habitually or spontaneously implicit within CEC as in the case of reflexive infusive percepta (although if reflective infusive percepta are repeatedly entertained and hence critically pondered, they are frequently transformed into reflexive infusive percepta. This is a NECESSARY condition for intellectual development, i.e., where formerly difficult concepts are later understood with intuitive ease as a function of intervening growth promoted through reflection).

c) Fulfilling the two preconditions "sets the stage" for the emergent occurrence of ADDITIONAL NOVEL REFLECTIVE INFUSIVE CEE and CE percepta, over and above preceding reflective infusive percepta, suggesting constructively unique ways for RELATING relevant objects with one another.

d) In fulfilling condition "c" above, a single developing event demonstrates the following

CONCOMITANT properties:

1) PI percepta are functioning in their ideationally causal role as stimulus-objects, hence conjuring conditions d, 2 - 5 below.

2) CEC percepta, functioning as simplified clear and distinct consciously symbolic focal points, are projected (a process to be explained later) from logically antecedent CEE and CE percepta, and in their denotative clarity GENERALLY symbolically REPRESENT conditions d, 3 - 5 below.

3) CEE and CE percepta arise as reflexive infusive event-components.

4) CEE and CE percepta arise as reflective infusive event-components.

5) NOVEL reflective infusive percepta whose synthetic origin begins in unconscious physio-chemical processes and hence emerge as ideationally unique event-components.

e) When conditions d, 1 - 5 have been concomitantly actualized in the development of a single event, the requirements have been met for novel ideational synthesis or transcendent concrescence; mind proceeds to a new level of understanding. Thus

1) due to the fact that factors d, 1 - 5 developed to a state of CONCOMITANT CONSCIOUS PROXIMITY with one another,

2) and because the occurrence of these concomitant conditions was in great part due to both a long-term preparational as well as a contemporary enactment of conscious awareness and reflective conscious analysis,

3) or generally, as a result of the view that underlying physio-chemical conditions or correlates provide the basis for ALL consciously emerging event-components, and further on the other hand, that mental events also cause transcendent organic concrescence (a point that we are presently attempting to demonstrate FOR CLARIFICATIONAL REASONS ONLY, because FORMAL proofs of the tenet have already been propounded) --- which is to say that as DEVELOPING CONSCIOUS AWARENESS, promoted by conscious reflection, achieves

the state posited in d, 1 - 5 -- the underlying physio-chemical correlates are ALSO BEING SPATIO-TEMPORALLY RESYNTHESIZED until state d, 1 - 5 is achieved.

4) Thus it may be concluded that when state d, 1 - 5 has been actualized in a given developing event, the entire configuration of components -- each with their unique perceptual properties and functional mode of ingressing into events -- enter into a CONSCIOUSLY UNIQUE NEXUS OF RELATIONS such that A NEW ASSOCIATIVE UNDERSTANDING (often termed as an "INSIGHT") IS CONSCIOUSLY REALIZED. Further, this newly synthesized idea, clearly understood as a CEC, is henceforth capable of functioning as an ideational PI perceptual stimulus-object.

5) But the synthetic process, understood from a physio-chemical concrescent perspective, more fundamentally indicates that CONSCIOUS and REFLECTIVE CONSCIOUS processes were necessarily instrumental in ORDERING correlative physio-chemical processes to the extent that state d, 1 - 5 was attained THEREBY PROVIDING THE REQUISITE SPATIO-TEMPORAL PROXIMITY AMONG ORGANIC PROCESSES PROPITIOUS FOR TRANSCENDENT PHYSIO-CHEMICAL SYNTHESIS, which from a perspective of conscious experience, yielded the "insightful" understanding.

6) To understand the way in which CONSCIOUSNESS can 'ORDER' empirically identical correlative PHYSIO-CHEMICAL processes so that their spatio-temporal (physical) PROXIMITY is propitious for concrescent synthesis, one must at once possess an acute, integrated conceptualization of all of the various arguments presented heretofore; which are merely contrived to explain the INTRINSIC nature of the subjective psychological meaning available to almost ANY human being during ANY moment of their lives.

CAUSALLY EFFICACIOUS EMOTIONAL PERCEPTA

Our characterization of CEE percepta will be brief for the nature of this class of perception was adequately -- at least for our present purposes in this chapter; viz., to

rather clearly designate the possible CLASSES of percepta (with their principal modes of ingression) that can become CONCOMITANTLY actualized as MIND during any possible spatio-temporal occasion -- explicated in previous discussions on 'emotional feeling' ("Chapter Two"); 'storing mechanisms' ("Chapter Three"); and in our previous analysis of CE perception, at least with respect to reflexive and reflective infusive causality. Therefore, to avoid redundancy, let us merely enumerate the most important features of CEE percepta. In the following chapter, however, as we proceed to analyze and hence devise constructs that to some extent reveal the synthetic "mechanics" of conscious reflection /thus in "Chapter Four" our analytical interests will be extended to the PROCESS of thinking as distinct from our PRESENT concern with defining the perceptual ENTITIES that are in process; and moreover, to provide an optimal formulation of the LOGICAL FORM of subjective psychological experience as it is UNIVERSALLY characteristic of all possible configurations of (mature) perceptual entities in process/ it will be seen that CEE percepta play a crucially important role in establishing ENDURING COHERENCE and CONTINUITY among our thoughts, as well as provide an indeterminately rich resource for NOVEL reflective infusive perception that often suggest new ways to promote ideational relatedness.

From the perspective of mature intelligence, unquestionably the most indigenous (directly) experiential property of CEE perception are their extraordinarily pervasive, yet powerfully efficacious, VAGUELY FELT

presence. These percepta unite with other more high-ordered percepta to concomitantly form inextricable units of experience termed mental events. Subjective psychological theory demands that CEE percepta be PRE-linguistic. This is to say on purely logical grounds, that if the profoundly subtle experiential quality of these percepta are adequately linguistically represented, then it would be concluded of necessity that they were CE percepta, hence potentially capable of achieving the status of ideational PI and CEC percepta. This, of course, is a possibility that in fact portrays the INTRINSIC process of symbolic development. The transformational process of CEE acquiring symbolic discipline is particularly evident in infantile linguistic acquisition where children proceed through the 'sign' and 'symbol' stages. But the question may be raised, How is it possible to linguistically designate the nature of CEE if it is by definition PRE-linguistic? This question prompts us once again to reconsider a formerly introduced illustration in which it was shown that the direct experience of consuming a fine steak dinner could not be linguistically communicated to another with sufficient adequacy such that the listener could vicariously grasp the full implication of what is intrinsically an EXPERIENTIAL UNDERSTANDING DERIVED THROUGH DIRECT PERCEPTUAL ACQUAINTANCE. Also this is ultimately the grounds upon which the view is propounded that ALL mental events are private in that percepta of ANY type can only be known through direct acquaintance. Further, the tenet that mental events are the only possible stimulus-objects

that can be known in themselves by the individual within whose organism the phenomena occur, follows from the fact of privacy. These conclusions arise from the obvious fact that ONLY individuals themselves can be the subject of their own experience. Each of us have privileged access to our perceptions, and more important, is the undeniable fact that "minds stand over against percepta"; or better stated, 'percepta concomitantly come constructively to bear upon other percepta'; finally, as our formulation exists in its present form, 'PI percepta ingress into human organisms hence concomitantly conjuring CEE, CE, and CEC percepta, together providing the necessary and sufficient conditions for a complete mental event'. The steak dinner example reveals that 'HAVING DIRECT EXPERIENCE' and 'LISTENING TO ANOTHER DESCRIBE HIS OWN DIRECT EXPERIENCE' are two categorically distinct phenomena in the sense that the subject of the experience has percepta directly available to his consciousness that are not in principle available to the listener. Thus, assuming subject 'A', who is eating a steak, is informing percipient 'B', who has never eaten a steak, about the experience, let us proceed to show in what way 'having direct experience' differs from 'listening to another describe his own direct experience'. This difference can be designated through a rough enumeration of the possible classes of percepta that are directly experienced by 'A' and 'B'.

1) It may be said that 'A' has direct access to the following classes of percepta:

a) natural PI percepta that are defined as 'taste of steak', and also the organic PI percepta characterized as 'the internal feeling of consuming food'.

b) CEE percepta defined as 'deep satisfaction, enjoyment and/or pleasure', derived from the eating process. These percepta are pre-linguistic and, rather, intuitively felt or experienced in a way which was so subtly extensive and experientially forceful that the domain of linguistic comprehension is exceeded. We have previously discussed this issue in analyzing the nature of mental events, saying that 'experience is broader than the capacity of individuals to fully symbolically characterize it'. Further, the matter may be explained by saying that in our present illustration 'A's' experience roughly involves BOTH 'eating a steak' AND 'verbally describing the experience of eating the steak'; hence it would be a mistake to say, as linguistic philosophers have maintained, that 'experiential facts as they are expressed within verbal statements can be understood exhaustively by analyzing the way that we USE words in given contexts, for words (intersubjectively used symbolic instruments) are the only means by which we can come to organize and thereby understand experience'. While it is true that words are the basic means we have for organizing, communicating and explicating our experience, it is not, however, correct to maintain that our statements about reality can be exhaustively understood by analyzing the way in which words are USED to make factual assertions. The writer does not deny the value in attempting to encourage clear and precise statements of fact that are subject to acceptable procedures for verification. But to devote EXCLUSIVE interest to the usage of words as they occur in statements of fact and hence in their commonly accepted modes of usage, is to DEEMPHASIZE the basic fact that words ARE used to organize, clarify and report on our experience. Words are linguistic instruments designed to REPRESENTATIVELY CHARACTERIZE THE ENTITIES, PROPERTIES AND RELATIONS OF INNER AND OUTER EXPERIENCE. This is to say that CEE, CE and CEC percepta typically regarded as linguistic symbols that CONCOMITANTLY COME TO BEAR UPON PI PERCEPTA which CONTRIBUTE data about the nature of entities, properties and relations;

data, in the cases of natural and organic PI percepta, that exist wholly independent from symbols with respect to their intrinsic contributed character. Therefore, to increase the precision of word usage and statements of fact, we ordinarily BEGIN by very carefully scrutinizing the presentationally immediate perceptual portion of our experience to make certain that our words accurately REPRESENTIVELY CHARACTERIZE what we directly perceive as PI percepta. This cannot be adequately ascertained through mere analysis of verbal statements regardless of the way in which they are used. Of course, the latter type of analysis is very useful for ensuring clear verbal exposition. There are many subtle ramifications to the methodology of linguistic philosophers, thus we have by no means presented at this time an adequate statement criticizing their position.

c) CEC percepta equivalent to 'A's' clear and distinct (denotative) concepts of the complete steak-eating experience, e.g., of what is being consumed, the taste of the food, the feeling of consuming the food, the properties of what is being consumed, how the experience may be best communicated to 'B', and so on.

d) CE reflexive and reflective infusive percepta equivalent to all the relevant past wisdom symbolically referring to '1, a - c' above; e.g., eating steaks, usage of language as a descriptive and communicative instruments, previously relevant occasions, etc.

2) On the other hand, listener 'B' has ONLY the articulated sounds of 'A' embodying his verbal report to 'B', and 'A's' manifest Behavioral movements or gestural expressions as these phenomena ingress into B as NATURAL PI percepta (NOTE: what are natural PI percepta for 'B' would be CEC percepta in the mind of 'A'), from which to make VICARIOUS (i.e., inferential) determinations about the DIRECT experience of consuming a steak, using 'A's' communications as a basis for inference. These percepta would generally consist of:

a) The natural PI percepta embodying the verbal articulations and other manifest behaviors of 'A'.

b) CE percepta corresponding to the connotative meaning of 'A's' verbalizations THAT WOULD BE

ATTRIBUTED TO 'A's' WORDS BY 'B' FROM 'B's' PAST EXPERIENTIAL LEARNINGS, NOT 'A's'.

c) CEE percepta embodying 'B's' past pleasurable experiences of eating food (steak excluded), and other relevant types of FELT meaning.

3) Thus in terms of even the very crude preceding perceptual analysis of both 'A' and 'B's' DIRECT PERCEPTUAL EXPERIENCE as the two domains of experience related to the steak-eating phenomenon, it can be easily understood that if 'B' had never eaten a steak then it would be impossible for 'B' to have a very clear concept of 'A's' steak-eating experience (in fact, it is in principle impossible, obviously under any circumstances, for 'B' to fully understand 'A's' experience because this demands knowing through direct acquaintance, hence necessitating the contradictory condition of 'B' BEING 'A'). It may be concluded, then, that 'B's' understanding of 'A's' direct experience is necessarily constrained to 'B's' NATURAL PI perceptions (stimulus-object effects of stimulus-object 'A') of 'A's' manifest behaviors AS THESE NATURAL PI PERCEPTIONS ARE CAUSED -- THROUGH 'B's' REFLEXIVE AND REFLECTIVE INFUSIVE CEE AND CE PERCEPTA -- TO BE SUBJECTIVE PSYCHOLOGICALLY MEANINGFUL THROUGH THEIR CONCOMITANT SYNTHESIS WITH 'B's' PREVIOUSLY LEARNED WISDOM.

4) Also there is the fact, over and above the one that 'B' can understand merely a very small portion of the subjective psychological meaning inherent in 'A's' words through their manifest effects as natural PI perception, that 'A', himself, can clearly and distinctly linguistically characterize only a comparatively small portion of his directly accessible experience of eating a steak for as we have previously argued experience is broader than our capacity to exhaustively characterize it in linguistic terms.

5) Now we are in a position to deal with a question formerly raised regarding the methodological analysis to which the class of CEE perception is being subjected, viz., How is it possible to linguistically designate the nature of CEE if it by definition is PRElinguistic? The answer to this problem is suggested in steps 1 - 4 above.

a) As the problem specifically refers to THIS discourse, the reader presently has only the bare printed words on white pages as a means

to understand the writer's concept of CEE percepta, for example.

b) The printed words are, in effect, NATURAL PI percepta embodied in a permanent medium (viz., as print on a page) and are thereby directly accessible to BOTH readers and the writer (who, if the natural PI percepta were not immediately available, would have to entertain the words more haphazardly in THOUGHT as ideational PI perception).

c) But the vastly important DIFFERENCE in subjective psychologically COMPREHENDING the intersubjectively ascertainable natural PI perception (as printed words), however great or minimal it may be among any given percipients (assuming they all knew the language embodied in the natural PI perception), arises WHOLLY from the fact that ALL INDIVIDUAL'S CEE and CE perceptual domain are ontalogically unique as they are concomitantly actualized with PI perception as subjective psychological experience.

d) The WRITER'S reflexive and reflective infusive percepta infuse natural PI perception with a distinctive type of wisdom that embodies a disciplined way or theoretical predisposition for understanding mental phenomena; one gradually developed from many hours of reflecting upon personal experience and the writings of numerous thinkers who address themselves to similar problems.

e) The READERS in contrast, although many of whom may have read extensively and pondered at length the nature of mind or ideational phenomena, will infuse the SAME NATURAL PI percepta with importantly DIFFERENT reflexive and reflective infusive percepta, primarily because they are unique individuals with highly personalized mentalities, developed as a function of greatly dissimilar experiential backgrounds, physiological differences, and unique modes of perceptual synthesis during subjective psychological experience. Hence with all these sources of variability as operative factors in influencing personal understanding of identical natural PI perception, it is not at all unusual to expect significant difference in conceptualizing or interpreting phenomena that given individuals directly experience (e.g., as natural PI perception) in common.

f) Steps 5, a - f are mere prefatory remarks that must be kept clearly in view before we proceed to consider the problem of how we are to (methodologically) linguistically conceptualize that perceptual domain which is in principle PRE-linguistic. Let us now proceed to accomplish this task.

g) In coming to understand the nature and efficacity of CEE perceptual states, the writer reflectively analyzes his subjective psychological experience. Thus after having classificationally subdivided and hence definitionally explicated the most conspicuous perceptual classes constituting mind as PI, CEC and CE percepta, the writer is yet aware that there still remains a very subtle and powerfully efficacious aspect of subjective psychological experience that is not comprehended by the preceding perceptual classifications. This remaining perceptual class includes a very intimate portion of the writer's experience (and any human beings' experience if they exercise a sufficiently precise reflective effort within the theoretical framework proposed in this paper) which is immediately (reflexively or intuitively) EMOTIONALLY FELT, possessing such EXPERIENTIAL AUTHENTICITY AND EFFICACITY AS A SYNTHETIC AGENT (in the sense of directly apprehending mental events as inextricable experiential UNITIES; it is herein that CEE plays its decisive role as a class of synthetic perceptual agents that infusively cause the 'inextricable' quality) in consciousness that to deny its efficacious perceptual presence would be to regard subjective psychological experience as an unreal or a mere delusion. Thus the term 'direct concrete experience' seems to appropriately characterize the inextricable unity of our conscious apprehensions of reality, but this holds true only if an individual possesses a deep sensitivity to the definitionally imprecise CEE perception providing the intimate experiential basis for EFFECTING THIS PROFOUNDLY FELT UNITY. This mode of designation may appear as logically unrigorous in contrast to sound operational definition, and yet, we must necessarily appeal to such INDIRECT LINGUISTIC methods; placing great emphasis upon intuitively evident illustrations similar to the previously cited steak-eating example. Directly perceived moments of intense experience resulting from conditions

yielding unmitigated happiness, deep hatred, successful therapy, powerfully humane communication with another human being, etc. all include the extraordinary CEE perceptual, passionate dimension of human experience. In fact, one does not come to initially achieve an understanding of these percepta merely by argumentatively isolating them as components of experience; rather one has many opportunities to intensely perceive these components long before they are reflectively isolated within a theoretical framework as CEE, for example. We have only to ponder the many implications of the theory of symbolic development proposed in "Chapter Two" to understand the present issue; it will be recalled that two major tenets were that subjective psychological experience during infantile levels of development IS PURE causally efficacious emotion, and further, it is only through the human organism's capacity for conscious reflective behavior (the intellectual efficacy of which must obviously be regarded as commensurate with the organism's level of development) that amorphous, unwieldly, primordial CEE can be subsumed to symbolic discipline. Thus all acts of creative intelligence can be conceived as rendering more clear and distinct -- precisely in the sense of generating causally efficacious CONCEPTS (CEC) -- certain aspects of our perceptual experience. Therefore if CEE is contemplated as an indeterminately complex (in that is IS often highly vague novel reflective infusive percepta) and hence profound domain of suggestibility, containing innumerable possibilities for establishing unique modes of cognitive RELATION, then its functional relevance and enormous importance for intellectual growth, when pondered in conjunction with the mechanism of reflective consciousness, becomes manifestly apparent. The concepts that are presently being analyzed are very closely related with John Dewey's thesis of intelligent thinking: the human organism after having reflectively formulated a sound hypothetical program of activity for solving a given problem, based upon the best available factual information (what we have metaphorically designated as bringing the relevant wisdom of the past constructively to bear upon the present occasion), then proceeds to the overtly active phase of intelligent enquiry where the hypothetical program is experientially and/or operationally implemented

to test its pragmatic efficacy. In this second crucial phase the organism has an opportunity to EXPERIENCE the reciprocal IMPACT of his conceptual efforts as their efficacity is determined through concrete implementation. Once again, the relevance of this latter phase for our view can be easily understood because we maintain that experience, specifically with respect to CEE perception, must be contemplated as broader than man's capacity to subject it to exhaustive symbolic characterization; this fact, considered in conjunction with the possibility for indeterminately great ideational RELATEDNESS, provides the basis of mind's commensurate capacity for development.

Although some of the examples used to illustrate the nature and efficacity of CEE perception (e.g., extreme happiness, rage, etc.) were atypical in contrast to our daily matter of fact experience, this is by no means to imply that CEE perception occurs exclusively in occasions of intense emotional activation. Rather, this class of perception is the fundamental source of consciously FELT inextricable unity in mental events. This gross perceptual discrimination is indicative of an experiential substratum whose efficacious presence is the most experientially vague and subtly pervasive dimension of MEANING-AS-DIRECTLY-FELT-RELATEDNESS, a theoretical concept characterizing a level of understanding including BOTH CEE and CE percepta. CEE perception, then, introduces an undeniable FELT UNITY to concrete experience, hence rendering consciousness INCAPABLE OF DIVISIBILITY WITHOUT DESTROYING ITS INTRINSIC NATURE AS A STIMULUS-OBJECT CAPABLE OF BEING KNOWN IN ITSELF THROUGH ITS CONCOMITANTLY UNIFIED PERCEPTUAL CONSTITUTION.

h) Thus the writer, in attempting to communicate his systematic understanding of mental experience (specifically now with respect to CEE perception), can ultimately rely only upon linguistic symbols as instruments to effect this communication, endeavoring to organize them in a way that will accurately suggest, over and above the clear and distinct natural PI perceptual specification of symbols in written form, the WRITER'S directly accessible CE and CEE perception which in essence constitutes the substantive meaning of the manifest printed words. This is to say that the printed words must be organized such that,

functioning initially as natural PI stimulus-object effects and then as IDEATIONAL PI PERCEPTUAL STIMULUS-OBJECTS IN THE MENTAL EVENTS OF READERS, they will conjure relevant reflexive and reflective infusive wisdom in READERS reasonably concordant with that of the writer's (this, of course, is a subjective psychological principle that holds true for ALL POSSIBLE intersubjective communication). Thus the PRElinguistic perceptual domain is designated, though unquestionably inadequately, by attempting to present the reader with highly systematic theoretical framework that comprehends human experience in terms of UNIVERSALLY applicable categories (collectively defined as the logical from of subjective psychological experience) that refer to directly accessible perceptual components constituting mental events. Then each perceptual category is explicatively characterized in a way amenable to precise analysis until the LAST category of perception is reached; one whose nature and efficacy can only be subtly FELT as primordial subjective psychological experience because of its extremely vague mode of occurrence. Therefore, by rigorously defining those perceptual classes that CAN be rendered linguistically determinate, we are able to analyze mental events in such a way that sufficient uniformity can be achieved among the reflexive and reflective infusive perceptual domains of individuals who have learned subjective psychological terminology. From this they can partially reflectively ISOLATE the presence of CEE perception as DISTINCT from their understanding of PI, CEC, and CE percepta, and then use their own personal conscious experience as an ultimate basis for FEELING the unique nature and efficacy of CEE.

CAUSALLY EFFICACIOUS CONCEPTUAL PERCEPTA

As it has been said, the notion of CEC percepta can be regarded as a refined derivative from the concept of denotative symbolic meaning; therefore, ensuing discussion about CEC perception should be pondered in light of the latter consideration.

The most distinctive experiential property of CEC

percepta are their CLEARLY and DISTINCTLY perceivable occurrence as DISCREET CONCEPTS OR IDEAS. Of course, as it is the case with all other classes of percepta, this characterization is the product of reflective analysis, hence indicating that we cannot in principle directly perceive CEC as PURE clear and distinct perception apart from concomitantly occurring CEE, CE and PI perceptual event-components. The natural PI perceptual spoken sound of the word, or the ideational PI perceptual thought, 'red', conceived IN ITSELF AS A BARE ENTITY HAVE ABSOLUTELY NO REFERENCE TO THE NATURAL PI PERCEPTION OF RED UNLESS CONSIDERED IN CONJUNCTION WITH REFLEXIVE AND REFLECTIVE INFUSIVE CEE AND CE PERCEPTA WHICH RENDER THE SPOKEN WORD OR SILENT THOUGHT SUBJECTIVE PSYCHOLOGICALLY MEANINGFUL. The extraordinary importance of linguistic RELATEDNESS was emphasized in the preceding section on "Causally Efficacious Percepta". Thus in the present section, we are concerned with accentuating the ONTALOGICAL STRANGENESS of symbolically REPRESENTATIVE phenonena where spoken, written, silently thought, or otherwise manifested HIGHLY ABBREVIATED, INTRINSICALLY DISCREET CEC ENTITIES serve as clearly and distinctly SIMPLIFIED conscious focal points from which vast amounts of concomitant, connotatively implicit WISDOM can be consciously REPRESENTED and hence CONSTRUCTIVELY MANIPULATED with EXTRAORDINARY facility, rendering thought and communication possible. It is unnecessary to elaborate the numerous implications that are involved in characterizing this subjective psychologically MEANINGFUL mental phenomenon for,

in effect, our entire foregoing discourse has been dedicated to this end. Let us merely emphasize, instead, the tenet that CEC are the most highly REFINED, DISCIPLINED emergent ideational entities of transcendent concrescence for, as it was mentioned in discussing the onset of the 'symbol stage', an enormous intellectual advance is made when an organism discovers that symbols can "tag" or represent large quantities of generally relevant past and present direct experience (e.g., where a child discovers that the utterance 'mama' can represent a great deal of pleasurable experience shared with 'mama stimulus-object', and further, that the newly acquired term enables previous enjoyable experience to be partially re-enjoyed in the sense that by merely expressing the word 'mama', a large number of vague though powerfully efficacious CEE percepta can be contemporaneously experienced). Subsequently, of course, further developments in the 'symbol stage' enable human organisms to establish RELATIONS among linguistic symbols. To better appreciate these two necessary conditions for intelligent behavior we have only to imagine (as in the case of animals, for example) circumstances where the deceptively "simple" capacity to meaningfully "tag" a brute natural PI perception with an abbreviated symbol is absent. Speculation of this type emphatically accentuates the incredible linguistic RELATEDNESS that implicitly accompanies even the mere utterance of a single meaningful verbalization; in this simple fact lies the essence of subjective psychological experience and thereby the possibility of all genuinely intelligent

enquiry. If the human brain lacked some of its complexity and interrelated character, consciousness would be forever destined to vague CEE perceptual awareness of external natural and internal organismic states. Concrescence would never achieve the level where reflective awareness transcends the 'sign stage'; the level which only a few species of animals below man achieve.

In analyzing the distinctive nature of PI perception a moderate INDIRECT understanding of CEC percepta was derived from the exposition. That is, upon several occasions laborous efforts were made to demonstrate that ideational PI perception were logically distinct from CEC percepta. The preponderance of this analysis was conducted from a criteriological frame of reference. PI perception were said to embody the properties designated by the following five criteria:

1) clarity in conscious awareness
2) distinctness in conscious awareness
3) contemporaneity in occurrence
4) logical antecedence in occurrence
5) contribuity.

Although, as it was seen, there are important differences between PI and CEC percepta, it will be instructive to briefly consider CEC perception in terms of the five preceding criteria in order to promote a clearer understanding of CEC.

With respect to the first two criteria of clarity and distinctness of conscious awareness, CEC percepta would

manifest these properties to at least the same extent as IDEATIONAL PI percepta, but not natural or organic PI perception. This is merely to maintain the distinction made by Hume when he stressed the obvious fact that directly perceived sensory impressions are more vividly clear and distinct than our ideas of direct impressions. Thus the two criteria as they apply to CEC are perhaps more in accordance to the Cartesian definition of clarity and distinctness, namely, that CEC can be clearly entertained in consciousness and conceived as distinct from other CEC.

Again, with the third criterion, CEC percepts shares much in common with ideational PI perception. But the commonality refers to the LIMITED discriminative power of the 'contemporaneity' criterion. In a previous section entitled "Presentationally Immediate Percepta", the problem was raised that since ALL perceptual components of mental events occur concomitantly in a LOGICAL FORM, how does the criterion of 'contemporaneity' apply to PI perception? The reply indicated that the criterion emphasized the SPATIO-TEMPORALLY UNIQUE, INDEPENDENT CHARACTER of the EVER-EMERGING PRESENT OCCASION ingressing into organisms as NOVEL PI perception from the external natural and internal bodily environments. A satisfactory answer to the problem was not provided at that time for it had not yet been demonstrated that PI perception also included ideational PI perception; a distinction requiring a moderate relaxation of the 'contribuity' criterion. Moreover, the concepts of CE and CEE perception were not considered at that time. The point

to be made is that with respect to natural and organic PI perception, the criterion of 'contemporaneity' does strictly hold true in that these perceptual deliverances DO IN FACT testify to the spatio-temporally unique, independent character of ever-emerging, contemporary natural world and internal bodily felt states. These two subclasses of PI percepta portray relevant ingressing reality as it contemporaneously exists, but does not in any way refer to past occasions. However, beyond this point, as the criterion applies to ideational PI perception and, more recently, to CEC percepta, we discover that these latter two modes of perception do not necessarily (nor do they in most instances) testify to NOVEL circumstances. LOGICALLY speaking, from our theoretical point of view, we must concede that ALL percepta -- PI, CEC, CE and CEE percepta -- are ontalogically unique during EVERY emerging occasion simply due to the fact that they are spatio-temporally separated. But there is also the consideration that CE and CEE perception, by definition, are percepta testifying to the learned wisdom of PAST experience. This is to say, while it is true that percipient 'A' feels a 'throb' and sees 'green grass' that ARE organic and natural PI percepts indigenous to contemporary reality (hence appropriately complying with the criteria of 'contemporaneity'), and further, that the reflexive infusive CE and CEE percepta enabling the two recognitions to be intelligently UNDERSTOOD ALSO occurred concomitantly with the PI percepta, the fact remains that the subjective psychological MEANING embodied within the reflexive infusive

perception was NOT LEARNED DURING THE PRESENT OCCASION, but rather, in PAST occasions. From this the conclusion follows that the criterion of 'contemporaneity' disqualifies (at least in this narrow sense) CE and CEE perception from being regarded as PI perception for they are CONTRIBUTED data NOT UNIQUELY intrinsic to the present occasion. But we may quickly indicate that ALL IDEATIONAL PI percepta are (temporally) PREVIOUSLY FORMULATED CEC, (temporally) SUCCESSIVELY RETHOUGHT IN THE SENSE OF ENTERING INTO PRESENT OCCASIONS AS IDEATIONAL PI STIMULUS-OBJECTS. This, of course, means that the ideational PI ideational entities are NEVER UNIQUE perceptual contributions from contemporary reality, though nevertheless, we must necessarily persist in regarding them as legitimate PI perception for they DO function as ideational stimulus-objects determining WHICH CEC, CE and CEE percepta will be concomitantly conjured to render contemporary events subjective psychologically meaningful. The point to be made, then, is that the criterion of 'contemporaneity' has limited applicability for designating causally efficacious concepts, because CEC also often occur as repetitions of past thoughts. There is, however, the not infrequent situation when engaging in reflective analysis that NOVEL reflective infusive percepta may prompt the projected synthesis of a NOVEL CEC; hence in this case the criterion of 'contemporaneity' would ALSO STRICTLY apply to CEC perception for the novel synthesis would be a creation occurring during the contemporary (inner environmental) occasion.

For our present purposes, the foregoing remarks presented in the section on "Presentationally Immediate Percepta" with respect to the criteria, 'logical antecedence in occurrence' and 'contribuity', will suffice to indicate the relevance of these two criteria (of which they actually have little) to CEC percepta. It will be recalled, however, that CEC were said to be synthetically 'projected' from causally efficacious percepta originally conjured by PI perception functioning as stimulus-objects. Since the notion of 'projection' refers to the DYNAMIC or PROCESS dimension of mental activity, as distinct from our present concern which is with explicating the nature of the ENTITIES that are in process, an analysis of this theoretical construct must be postponed to the next chapter. Yet in terms of the CEC experiential mode of ingression it is well to mention at this time that the process of projection is a REFLEXIVE one in TYPICAL conscious awareness of reality. That is, when we perceive familiar stimulus-object effects such as a chair, the taste of sugar, the odor of smoke, the feeling of nausea, etc., CEC are spontaneously representatively ascribed to them without a reflective effort (e.g., as the linguistic terms 'chair', 'sweet', 'smoke', 'ill', etc.). Our discussion of the nature of CEC percepta may be concluded by saying that in the vast majority of instances CEC are those components of symbolic meaning that LITERALLY embody our thoughts as MANIFESTLY SPOKEN and SILENTLY THOUGHT BARE LINGUISTIC FORMS, logically conceived as completely devoid of all PI, CE and CEE perception.

SYMBOLIC REFERENCE

It has been emphasized many times that PI, CEC, CE and CEE percepta occur CONCOMITANTLY, in principle, throughout EVERY possible instantaneous spatio-temporal moment during which conscious experience is actualized in ANY given human mind (although as we shall see later, a CEC component is not always necessarily present, and moreover, during infancy it seems that only natural and organic PI and CEE perceptual components are present, thereby reaffirming our 'at least bipolar' characterization of mind). Therefore the term 'symbolic reference' will be used to define the phenomenon of ACTUALIZED CONCOMITANCY amongst given classes of percepta during any theoretically possible instantaneous moments of space-time. Symbolic reference places greater emphasis upon the ACTUALIZED CONCOMITANCY of percepta that constitute mind at an instant than the previously defined concepts, 'experience' or 'mental event'. As a directly perceivable phenomenon within a mental event, symbolic reference would BE subjective psychological experience in its evolving inextricable durational unity. It is emergent concrescent experience, or the subjective psychological perspective of unique nexus among relevant organic proensities occurring as the physio-chemical empirical correlates to mental events. Stated still differently, symbolic reference is perceptually unified direct apprehension or experience of symbolically disciplined understanding (CEC, CE and CEE percepta) coming constructively to bear upon the present occasion (ingressed PI perception) so as to ideationally

enhance the present with the relevant wisdom of the past.

Speaking now with a mechanistic emphasis, we have seen that when stimulus-object effects ingress as PI perceptual event-components, they concomitantly conjure relevant CEE, CE and CEC (as reflexive infusive and reflexive projected) perception that, in effect, renders the stimulus-object effect initially intelligible. Further, as the spatio-temporal occasion evolves into the future (now stressing the primordially perceived 'PROCESS' character of human experience), the PI stimulus-object effect, OCCURRING WITHIN THE INEXTRICABLY INTEGRATED CONTEXT OF THE COMPLETE CONSCIOUSLY INTELLIGIBLE MENTAL EVENT-IN-PROCESS (hence meeting the necessary conditions of a stimulus-object that can be known directly in itself), is transformed into a PI stimulus-object concomitantly determining WHICH CEE, CE and CEC /now occurring as reflexive and reflective (reoccurring and novel) infusive percepta and reflexive (reoccurring and novel) projected/ perception will be deemed as relevant to enhance its meaning. It must be understood that throughout this complex reflective experience -- a Behavioral act that human organisms can generally execute with ease -- we may theoretically conceive of an UNCHANGING BASIC STRUCTURE (demonstrated in spatio-temporally CONCOMITANT PERCEPTUAL ACTUALIZATION) persisting throughout each possible successive instant during an event. This consideration should be kept clearly in view because it is of fundamental importance to our final formulation of the LOGICAL FORM OF SUBJECTIVE PSYCHOLOGICAL EXPERIENCE, for the constructs that will be

developed in future chapters, and later, with regard to an elaborated exposition of the distinction drawn between 'NATURAL' and 'IDEATIONAL' CAUSALITY. Let us briefly say in reference to the issue of causality, that our concept of mind will seriously call into question the habitually accepted notion (as it applies to uniquely HUMAN behavior) that a 'stimulus' can be conceived as spatio-temporally PRECEDING a 'response' in the Skinnerian sense, for example. It will be seen that our concept of 'CONCOMITANT ACTUALIZATION' shall provide the basis for what will result as a severe criticism of traditionally conceived stimulus-response theories of human behavior.

It might also be well to reemphasize, again mechanistically speaking, that although the preponderance of analytical attention was devoted to our DIRECTLY PERCEIVABLE experience, it was implicitly maintained that, at least, LOGICALLY PRIOR to the emergence of conscious perception there exists the vast organic functional domain of UNCONSCIOUS physio-chemical processes. This is merely to say that fundamental preconditions for conscious emergence are that QUANTITATIVELY sufficient (activated) organic mechanisms in QUALITATIVELY adequate INTEGRATION are CONCOMITANTLY ACTIVATED to yield conscious perception, however minimally sophisticated the events may be. This is what is meant by the term 'EMERGENT CONCRESCENCE'. In the massively complex domain of, IN PRINCIPLE, UNCONSCIOUS /i.e., we cannot possibly have as a direct perception, for example, chemical A's "subjective experience" of the ingressional EFFECT of

stimulus-object (chemical) B7 processes, we may nevertheless conceive, as is the case in physiological scientific enquiry, of concrescence beginning with SENSATION, for example, from light impinging upon the retinal region of an individual's eyes (the beginning of a stimulus-object EFFECT), and hence ultimately emerging as the consciously intelligible PERCEPTION of a particular color and form. However, in saying this it must be admitted that in consciously perceiving, for example, a red apple as an intelligible object of concern (the phenomenon now regarded as a complete event), the original physio-chemical change occurring as a modification in retinal states, had initiated an extraordinarily complex (SYNTHETIC) concrescent process whereby the resultant CONSCIOUSLY INTELLIGIBLE PRODUCT (occurring as a complete event) presupposes ALL the physio-chemical correlates underlying PI, CEC, CE and CEE perception.

Circumstances are now reasonably appropriate, while presupposing our ENTIRE foregoing intricately evolving argument, to present a concise theoretical formulation of the LOGICAL FORM of subjective psychological experience or MIND. A final brief argument, accentuating a consideration that was perhaps only implicit in our preceding analyses, shall now be propounded, consequently bringing us to our optimally simple (but not overly simplified) formulation of the LOGICAL FORM of MIND. The argument entails utilizing once again the concepts, 'form' and 'matter', contemplated as universal principles of organization in their application to the entities, properties and relations of our perceptual

experience of reality (comprised of percepta issuing from stimulus-objects LOCATED in BOTH inner and outer environments). It may be stated as follows:

1) Any possible mental event must necessarily demonstrate at least a bipolar structure with regard to its constitutive CLASSES of perceptual event-components (e.g., it may be assumed that early infant mentality consists merely of natural and organic PI perception, concomitantly occurring with CEE percepta). In their mature, functional state, mental events generally embody the concomitant structure of PI, CEC, CE and CEE perception.

2) It has been said that natural and organic PI perception are unique, spatio-temporally contemporary CONTRIBUTIONS to mind in that their bare intrinsic perceptual nature is not contingent upon CEC, CE and CEE for their distinctive character as ingressed perception.

3) The intrinsic perceptual nature of natural and organic PI perception may be further analyzed in terms of MATTER and FORM. This is to say, for example, that when we perceive a 'red apple', the natural PI perception of 'red' (i.e., matter) cannot be directly perceived apart from its 'apple shape' (i.e., form). More generally, the entire VISUALLY perceived natural world is, throughout space-time, a kaleidoscopic PROCESS of determinate colors included within determinate forms. This type of analysis may be applied similarly to the remaining external bodily senses, AND FURTHER, to the internal modes of perceptual experience yielding ALL types of organic and ideational PI perception (as it will be demonstrated, shortly).

4) It was further stated, however, that ideational PI percepta do not possess the same degree of 'INDEPENDENCE' from CEC, CE and CEE percepta as natural and organic PI perception; and moreover, ideational PI percepta necessarily originally emerge as unique ontalogical existants FROM CE and CEE percepta (functioning in their 'infusive' roles) as novel 'projected' CEC during spatio-temporally PRIOR occasions. But we had demonstrated that even though the 'contribuity' criterion had to be somewhat relaxed in the case of ideational PI perception (i.e., it was shown that this sub-class of PI percepta was not

strictly as uniquely independent as contemporaneously contributed as natural and organic PI perception), ideational PI percepta does FUNCTION IN MENTAL EVENTS AS IDEATIONAL STIMULUS-OBJECTS, EFFECTIVELY DETERMINING WHICH CEE, CE and CEC percepta will be conjured as relevant for actualizing a complete event.

5) Therefore, the same MATTER-FORM distinction deemed appropriate for natural and organic PI perception (in step three, above) is suitable for ideational PI percepta occurring as stimulus-objects. That is, for example, the subjective psychologically entertained IDEA of 'red' has as its FORM the DENOTATIVELY clear and distinct spoken sound, written word, bare silent thought or Behaviorally manifest gesture representing the linguistic symbol, 'red' (hence designating the symbol 'red' as uniquely distinct from any other linguistic symbol). Further, the subjective psychological IDEA of 'red' has as its MATTER the myriad CONNOTATIVELY meaningful, or more specifically, the CE and CEE percepta that constitute its substantive meaning.

6) Thus far we have only considered ONE HALF of the BIPOLAR character of mind, viz., PI perception, and have not therefore devoted attention to the second portion, viz., CEC, CE and CEE, collectively conceived as UNITARY symbols concomitantly brought to bear upon PI perceptual contribution. Stated differently, when we see a 'red apple' the stimulus-object effects participate in our consciousness as directly perceived natural PI perception to which we concomitantly (as reflexive infusive percepta) ascribe the linguistic terms 'red apple' (terms constituted by CEC, CE and CEE percepta). In effect, from what has been said above, the CEC perceptual component of unified symbols could be regarded as the symbol's FORM, and the CE and CEE perceptual components could be contemplated as the symbol's MATTER.

7) The conclusion, then, is that our bipolar concept of mind implies a TWO-FOLD FORM-MATTER distinction, namely, with regard to PI perceptual event-components /the latter three classes conceived as unified (typically) linguistic symbols entertained in subjective psychological experience/ as they concomitantly come to bear upon PI perceptual stimulus-object effects (functioning also as PI stimulus-objects designating WHICH CEC, CE, CEE percepta will be relevant for actualization into a two-fold form-matter relation).

8) BOTH form-matter units are concomitantly actualized in experience throughout space-time (as a UNIVERSAL LOGICAL FORM for all possible mental events) as symbolic reference. All our previous argumentation reduces to this concept of mind; a view that shall be defined as the 'DOUBLE FORM-MATTER THEORY'.

9) Again it should be noted that our concept of mind, in principle, entirely follows from an analysis of the direct perceptual deliverances, actualized as subjective psychological experience.

DOUBLE FORM-MATTER STRUCTURE OF MIND

We have arrived at a stage in our argumentation where a highly formalized specification of mind, beyond that heretofore defined, follows as the next logically successive consequent. The deduction as such will be an important instrument for facilitating a complete understanding of the concept of mind propounded in this discourse. The following schematization essentially embodies the basic formula developed early in our discourse, namely, 'percepta concomitantly coming constructively to bear upon other percepta'. Once again, it ought to be mentioned that the DOUBLE FORM-MATTER schematization cannot be understood as a means for avoiding careful reflective scrutiny of preceding arguments. Rather, the writer earnestly hopes that the reader will also come to regard it as a culminative consequent of an understanding, initially, recognizing problems as vague, and then cyclically, through exercising a persistent reflective effort, proceeds to progressively higher levels of clear understanding. Hence, with this attitude, the ensuing greatly simplified formalization of the LOGICAL FORM of subjective psychological experience is

merely a preparatory measure for future, more elaborate and precise investigations of the intrinsic STRUCTURE and PROCESS of mind. This is to say in a very definite way, that after having been presented the schema and pondered its nature, innumerable implications suggesting areas in need of further clarification, reconciliation and elaboration will undoubtedly arise.

FIGURE 12 THE STRUCTURE OF MIND

"PERCEPTA STANDING OVER AGAINST PERCEPTA"

THE CATEGORIES OF ALL POSSIBLE EVENT-COMPONENTS	STIMULUS-OBJECT EFFECT MATTER INDEPENDENT CONTRIBUTION (MATTER) + (FORM)	
SIGHT	PARTICULAR COLOR AS A DIRECTLY EXPERIENCED EVENT-COMPONENT	FORM THAT DEFINES THE BOUNDARY OF THE COLOR RELATION PROCESS
SOUND	PARTICULAR SOUND AS A DIRECTLY EXPERIENCED EVENT-COMPONENT	DURATION OF SOUND; BEGINNING AND END POINTS FORM OF DURATIONAL PROCESS, e.g., STRUCTURE OF MUSIC
TASTE	PARTICULAR TASTE AS A DIRECTLY EXPERIENCED EVENT-COMPONENT	DURATION OF TASTE; BEGINNING AND END POINTS FORM OF DURATIONAL PROCESS
TOUCH	TEXTURE: i.e., SMOOTH, COARSE, ETC. TEMPERATURE: i.e., HOT, COLD, WARM, ETC. AS A DIRECTLY EXPERIENCED EVENT-COMPONENT	RELATION: SOLID, FLEXIBLE; LIQUID, GAS; STRAIGHT, CURVED, ETC.
SMELL	PARTICULAR SMELL AS A DIRECTLY EXPERIENCED EVENT-COMPONENT.	DURATION OF SMELL FORM OF DURATIONAL PROCESS
ORGANIC OR BODILY FEELING	PARTICULAR INTERNAL FEELING AS A DIRECTLY EXPERIENCED EVENT-COMPONENT	DURATION OF FEELING; BEGINNING AND END POINTS FORM OF DURATIONAL PROCESS
IDEATIONAL FEELING	IDEATIONAL PI PERCEPT AS A DIRECTLY EXPERIENCED SUBLIMATED DISCIPLINED EMOTION CE PERCEPTA CEE PERCEPTA	THE PARTICULAR FORM OF THE SYMBOL AS CLEAR AND DISTINCT IDEATIONAL PI PERCEPTA DURATION

SYMBOLIC REFERENCE

LANGUAGE (SYMBOLS) FORM EMOTIONAL-IDEATIONAL FEELING (FORM) + (MATTER)		
SYMBOLIC REFERENCE	THE PARTICULAR FORM OF THE SYMBOL AS CLEAR AND DISTINCT CEC OR UNIVERSAL	DIRECTLY EXPERIENCED MEANING-AS-DIRECTLY-FELT-RELATEDNESS, i.e., CEE AND CE PERCEPTION
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"
"	"	"

Section Five

Recapitulation:

In order to promote a better understanding of the previous train of argumentation, let us reflect briefly upon the major points that the writer has attempted to make. It was seen that the principal claim to be refuted was that human behavior could be exhaustively explained, in principle, in terms of its intersubjectively directly accessible manifestations occurring within natural environmental contexts. Then if it is true that all causal factors underlying human behavior are directly accessible to scientific observers, then psychologists need not introduce "mentalistic" or intervening variables into their behavioral models for they would be extraneous, and moreover, confusing to behavioral enquiry due to the fact that they are not directly perceivable by scientists. In holding this position, proponents are necessarily compelled to an epiphenomenalistic conception of mind-body; i.e., that "mind" can be exhaustively explained in terms of physical and/or reflexive processes. The writer has held that this is certainly an extreme view, indeed, for it demands, as it was shown in an earlier illustration, that the thoughts or mental states occurring in our heads particularly during silent meditation -- that is, when we are personally demonstrating merely neutral overt behavior -- are, on a behavioristic (i.e., as it was consistently used throughout this paper, B. F. Skinner's) account for example, not to be regarded as

causal factors in the production of human behavior. Thinking is to be equated with solely intersubjectively manifest behavior, and more specifically, with verbalizations that can be heard aloud. Hence there is no room to human behavior; it is literally what it "appears" to be insofar as the needs of a Behavioristic psychology are concerned. The only data suitable for psychological enquiry are those directly ascertained through the external bodily senses of psychologists. Such a view seems seriously discordant with the facts of concrete experience, for its implications carried to their extreme demand -- since the behaviors of observational psychologists as well, for example, cannot be conceived as involving anything more than their mere appearances -- that the notion of human subjective perspective or subjective understanding be purged from psychological vocabulary. Surely this is error for the obvious fact is that individuals' experience in one definite sense must be minimally understood as a spatio-temporally extended sequence of conscious awarenesses, each sequence collectively comprising single life histories. It will be recalled that this latter concept of human experience is a fundamental fact from which Whitehead's and hence the writer's position followed.

The writer developed a view diametrically opposed to that of Behaviorism; for example, insofar as it was maintained that all humanly perceivable events must necessarily be regarded as mental events to the extent that an individual "mind" must be logically presupposed to entertain any

precise phenomenal occurrence. This is to say that it is unthinkable to speak of a human organism having an intelligible awareness of an external natural or internal bodily occurrence unless we presuppose a consciousness and reflective consciousness that directly perceives the phenomenon. From this, the metaphorical expression of "mind standing over against percepts" followed. In this dichotomized portrayal, the writer did not maintain that a dualism was implicit; rather the converse was emphasized. That is, the "mind" factor was conceived to include the two general classes of percepts -- denotative and connotative perceptual meaning -- that constituted the personal perceptual contribution necessarily ascribed to heard verbal utterances by both the subject articulating the utterances as well as those hearing the natural world sounds. Thus the "mind" factor and the 'percepts' factor were regarded as inextricably related components in producing manifest verbal behavior. Then the traditional subject-object relationship was reformulated to the degree that stimulus-objects were said to yield stimulus-object effects; the effects were then conceived to BE the perceptual elements entertained by an individual consciousness. Therefore "mind" was metaphorically posed as "standing over against" stimulus-object effects. Stimulus-object effects can be regarded as occurring from two different spatial regions: from stimulus-objects LOCATED in the external natural world, and from stimulus-objects LOCATED in an individual's personal bodily organism. From this, the conclusion followed that

intersubjective verifiability of phenomenal occurrences is based on the fact that individual percipients have direct perceptual access to the effects of stimulus-objects located in the external natural world; while conversely, those effects occurring within individual's own organisms were in principle directly INACCESSIBLE to externally located percipients. The two categorically distinct spatial regions of stimulus-objects lead to the division of the methodologically distinct approaches to psychological enquiry: one termed as objective psychology (i.e., a non-epiphenomenalistic Behaviorism) dealing with human behavior as it appears directly through the external bodily senses of observers; the other a subjective psychology utilizing a system of hypothetical constructs designed to represent the dynamics of subject's internal bodily (essentially ideational) experience. It was noted that since internal behavioral dynamics are directly inaccessible to externally located observers, the constructs must ultimately be subject to verification through phenomenal occurrences directly inter-subjectively confirmable.

The principal objection that a critic could raise to the writer's view would be in questioning the nature of the "entity" -- namely, a "mind" or consciousness and reflective consciousness -- that is metaphorically alleged to "stand over against" percepts or what has also been defined as stimulus-object effects. The writer argues that all types of individuals' linguistic, and more generally, symbolic behavior have two aspects if such behavior has an

intersubjectively manifest dimension (it should be noted, however, that in the case of silent thinking, there is often no intersubjectively accessible manifestation of linguistic behavior. Thus obviously this class of behavior cannot serve as data for scientific psychology for it is directly accessible only to those individuals within whom organism the states occur). There is the dimension that is directly ascertainable by externally located observers, as in the case of any natural world phenomenon. But also there is a very complex dimension to symbolic (and particularly linguistic) behavior directly accessible to only individual subjects themselves. This dimension is essentially equivalent to the highly complicated relevant personal history of learned information IMPLICITLY ASSOCIATED with each articulated linguistic (i.e., natural world) sound heard by listeners located spatially separate from subjects. These IMPLICITLY CONTAINED MEANINGFUL COMPONENTS of linguistic symbols, which are reflexively and synthetically associated with subjects' vocal utterances, are directly accessible to only subjects themselves for they arise as internal bodily identional perceptions. Due to the fact that there is relatively high concordance in the definitional meaning ascribed to elements of given languages shared in common by groups of individuals, intersubjective communication is rendered possible. These two aspects of linguistic behavior are rightfully the subjectivities of an objective and subjective psychology -- together capable of in principle providing a complete account of human behavior. To better understand

the necessity for modifying the two-premise approach for investigating linguistic behavior -- the phenomenon which the writer roughly equates with mind -- let us briefly reconsider the line of argumentation developed in preceding chapters.

In Chapter One it was argued that since Skinner does not hold that mental states have a causally efficacious status in determining human behavioral modes, these states must be regarded as epiphenomena. But it can be shown that this view must necessarily logically presuppose as part of its semantic basis that mental states DO possess causal efficacity, for otherwise the system as logically proposed becomes seriously contradictory. The essence of these criticisms can be expressed in the following way. First, given only those behavioral phenomena delivered through the external bodily perceptual modes of Behavioristic observers, it cannot be demonstrated that a full account of human behavior can, in principle, be experimentally established. This was made evident in the example of subjects engaged in the typical act of silent thinking, while exhibiting the appearance of more neutral behavior to onlookers. Observers would have, in this case, no way of knowing that events were occurring in the head of subjects unless subjects themselves verbally described the personally experienced phenomena. Moreover, the limitations of Behavioristic methodology can be more importantly seen in investigating linguistic behavior. In hearing the verbal utterances of subjects, for example, all that is strictly heard by observers are the

natural world sounds or words, in themselves having no inherent meaning apart from a consciously aware human being(s) to understand the words. This is to say that over and above being BARE NATURAL WORLD SOUNDS, spoken words stimulate MEANINGFUL UNDERSTANDING IN PERCIPIENTS who both articulate and hear the words. Therefore in order for subjective understanding to be accomplished by (or astribed to) any individuals, it is necessary that each person makes a PERSONAL INTERPRETATIVE LINGUISTIC CONTRIBUTION CONCOMITANT with the natural world sounds as they are either subjectively emitted or directly heard by externally located perceptions. However, it is essential to note that the EXACT meaning (whether true, false, vaguely expressed, eloquent, etc.) of the personal contribution to the natural world sound signal in common is directly accessible only to the subject emitting the verbal utterances. Hence there may result great concordance or discordance among the personal interpretative contributions ascribed to the heard verbalizations by listeners, in contrast with the subject's personal contribution. This condition also indicates that there are, in addition to natural world variables, inter-subjectively NON-manifest variables operating in the personal production of linguistic behavior as well as in understanding heard utterances. Hence it must be concluded that Behaviorism cannot, in principle, directly ascertain all the variables causally operative in human behavior solely through the external bodily senses. (Furthermore, since the Behavioristic ontologies itself -- and all intelligent human

emicentrism for that matter -- is dependent upon the usage of linguistic symbols, it must also be emphasized that the internal bodily states which it presumes to methodologically exclude from its procedures are necessarily logically presupposed (a priori) and operationally implemented for its possibility as a systematic mode of enquiry.)

In order to theoretically elaborate upon the writer's view that linguistic symbols when overtly expressed have both an intersubjectively accessible dimension -- i.e., generally as natural world sounds -- and an aspect directly accessible only to each individual entertaining the sound, whether he personally generates the utterance or merely hears it -- i.e., the personal relevant history of meaning that is reflexively and reflectively brought constructively to bear upon the natural world linguistic COMPONENTS, hence, actualizing a complete MEANINGFUL verbal utterance --, the views of Ernst Cassirer and Alfred North Whitehead were introduced. Explicitly contained in each thinker's position is the notion that emotion, as it is directly accessible to individual human beings, is a crucial factor in acquiring and effectively using language. That is, Cassirer and Whitehead generally hold that subjectively experienced emotion during the acquisition of speech in early life undergoes a radical disciplined transformation whereby linguistic behavior is essentially learned, consequently enabling human organisms to communicate and successively meaningfully develop their experience. Here emotion is regarded as an inextricable synthesis of external and internal bodily perception.

Secondly, it can be shown that from scientific statements about behavior obtained by a Phenomenistic Behaviorism and those subjective statements which provide human behavioral sciences in physio-chemical terms -- since both approaches can be regarded normally as delivering data via the external bodily senses of scientific observers --, statements referring to mental phenomena cannot be deduced ANALYTICALLY. Therefore the correlations that can in principle be established between mental events and physio-chemical states said to underlie the mental events must be established by EMPIRICAL, not purely logically deductive correlative procedures (an alternate argument arriving at the same conclusions was proposed in the Feigl article).

The above criticisms have great methodological importance for the behavioral sciences in that they clear the way for two logically distinct procedures for systematically investigating human behavior. First, there is the approach designated essentially by traditional Behavioristic methods; i.e., investigating those behavioral phenomena that can be ascertained DIRECTLY via the external bodily senses of Behavioristic psychologists. Also there is the second approach defined as a subjective psychology, investigating those phenomena perceived directly ONLY by individual human beings themselves; hence perceived INDIRECTLY by subjective psychologists. These inner states are classifiable into three distinct types of perception:

1) bodily feelings; i.e., pains, etc.

2) emotional feelings

3) Conclusion.

Thus a subjective psychology, although not having the methodological advantage of a Behaviorism in that the phenomena with which it deals are NOT intersubjectively directly substantiable by subjective psychologists, CAN deal with inner behavioral elements primarily through an analysis of verbal reports of subjects referring to their inner states. The primary difference in this approach from a Behaviorism is that a different THEORETICAL INTERPRETATION is ascribed to these verbal reports (i.e., the cortical theory developed in "Chapters Two" and "Three"). Thus the methodological procedure of collecting data having reference to subjects' inner perceptual states that are not directly experienced by subjective psychologists, in light of an appropriate explanatory theory and carefully controlled experimental conditions is not a serious methodological handicap. The exact science of physics (as it was stressed in the Introduction), for example, cannot DIRECTLY observe the nature of its theoretically postulated entities (e.g., atoms, electrons, molecules, etc.), and yet, through the utilization of well formulated theoretical constructs, penetrating investigations are conducted into the nature of hypothetical entities that are in principle unobservable.

In "Chapter Two", a model for conceptualizing human behavior is presented which is consistent with the aim of both an objective and subjective psychological approach to investigating human behavior; that is, in developing a system for explaining the dynamics of human behavior in

kind of experimentally established dependent relation exist between components. Essentially the point demonstrated that individual human organisms are to be conceived as unified functional organisms actively behaving interdependently in a physical and social environment. Next, it was shown in detail that there are two categorically distinct ways that an individual can be stimulated:

a) through the external bodily senses as external bodily sensation and perception

b) through internal bodily modes yielding the following classes of perception:

1) bodily feelings; i.e., pains, etc.

2) emotional feeling

3) ideational feeling.

It should be mentioned once again that the writer is developing a S-O-R model, for it has been logically concluded that by omitting the "O" factor, a behavioral science can only provide a PARTIAL account of human behavior because the second category of FACTUAL perceptual phenomena must be methodologically excluded from a Behaviorism. This second category of percepts, then, becomes the appropriate domain of a subjective psychology. Both objective and subjective psychological approaches can, in principle, provide a full account of human behavior if their knowledge claims are considered conjointly. Thus all possible percepts capable of functioning as causally efficacious variables in determining human behavioral responses must be delineated through the two categories of perceptual modes. A human organism can, in effect, be stimulated from internal bodily regions

or from the external natural world. Also a small set of hypothetical examples were developed, permissible systematic generality, in order to comprehend the vast number of mind-material systems involved in behavioral occurrence, hence theoretically at least in principle how organic bodily mechanisms can operate in conjunction with conscious processes. This is to say that if it has been proven that there, for example, a set of scientifically appropriate statements referring to states said to underlie a particular mental state (a feat which is logically possible for a very highly developed neurophysiology), it is not logically possible to deduce the nature of the correlative mental state from the scientific statements, and vice versa, then it follows that two logically distinct perceptual domains exist. From this, it must be considered that an ontological is in existence that from physio-chemical bodily processes, a logically and experientially distinct class of internal bodily phenomena emerge, viz., MINDS of qualitatively different grades. However, this is regarded to be a scientifically predictable emergentism (see Oppenheim-Putnam article).

From the previous discussion, a concept of mind follows such that in investigating human behavior there are three possible ways in which individual human behavioral phenomena may be systematically studied:

1) From the point of view of the biological, and more specifically, the internal environ-

2) From the point of view of the investigator, behavior is directly amenable to intersubjective study by external bodily movement hence methodologically suggests understanding to treat subjective psychological states from their externalizations as scientifically irrelevant because of verificational reasons.

3) A subjective psychology which is more consonant with Gestalt and Phenomenological schools of psychology (yet importantly different), but using theoretical and methodological procedures more in accordance with those of the natural sciences.

From [illegible] subjective psychological point of view, a concept of mind is advocated arguing that mental phenomena do in fact emerge from underlying physio-chemical conditions. But since statements referring to the two classes of concepts representing each domain are not logically equivalent, the correlations to be established between the two domains (a logically possible feat of a highly sophisticated neurophysiology) must necessarily be EMPIRICAL correlations. This situation leads to the conclusion that in the emergence of a logically distinct mental perceptual domain from a correlative physio-chemical domain, there results also a mutually exclusive realm of causality over and above the lower-ordered mechanistic causality of physio-chemical processes. This is merely to say that individual persons, apart from the indeterminately large number of environmental contingencies that may influence their behavior, do determine many of their own modes of behavior. One ramification of this conclusion is that the theoretical concept of conditioned reflex has only limited, although important, relevance for systematically studying

human behavior for consciousness (acting conjointly with its reflective capacity) also acts as an explanatorily unique BASIS OR PREMISE for generating a concretely efficacious class of mental variables that act in conjunction with (conditioned) reflective factors in determining human behavioral norms.

In "Chapter Three" it was seen that because the domain of inner bodily perception had been demonstrated to be a causal realm distinct from the physio-chemical realm, yet obviously working in conjunction with it in producing individual behavior, it was possible to devise a system of constructs suitable for experimentally investigating the dynamics of personally accessible conscious and reflective consciousness processes. A theory was subsequently presented showing that given the human organism with its capacity for ideational syntheses, and given merely those percepts delivered through the two categorically distinct (i.e., inner and outer) modes of perception, it is possible to demonstrate the LOGICAL FORM intrinsic to all possible subjective psychological experiences (defined as those inordinately unified perceptual configurations issuing from both internal bodily and external natural regions, directly experienced by individual human beings throughout given spatio-temporal durations). The LOGICAL FORM of subjective psychological experience is that theoretical framework within which ALL subjective psychological behavior can be understood in terms of the various possible ways that any configuration of

mental event-components (viz., the various classes of perceptual variable of being coincidentally delineated by the two subsystems of perceptual holes throughout any given spatio-temporal duration) may be actualized within a particular mental event. All this merely amounts to stating that human conscious experience has a definite parameter of determinate classes of event-components out of which any given subjective psychological states may be synthetically actualized. Further, there are a limited number of ways in which these components may be organized into subjective psychological experiences; i.e., as determined by the form of the natural world perceptually expressed as entities, properties and relations; the physio-chemical structure of the human organism; the operational function of memory and conscious reflection with their perceptual contents; and so on. Therefore if we understand the possible components of human experience and the various ways in which these components may be related as partially revealed by the LOGICAL FORM of subjective psychological experience, then important advances in dealing with the general problem of behavior modification can be made, primarily as a result of gaining a clearer and more comprehensive understanding of the many possible variables that can causally influence human behavior. Finally, from understanding the logical form of subjective psychological experience, many additional theoretical constructs can be developed and hence subjected to experimental verification. In this way, from psychology's discussion, a subjective psychology would deal -- by means

of neurophysiologically interconnected three-fold neighborhoods — each being experienced as it is [illegible] through direct intuitive insight by individual human beings. An distinction drawn as objective psychological action could be experimentally recorded; the [illegible] recognition is intuitive as it directly appears to externally located observers. The difference in viewpoint is essentially one of perspective; that is, the former approach attempts to view and know systematically explain individual experience as it is directly entertained by subjective transducer, whereas the latter endeavors to explain this process in terms of its intersubjectively directly available appearance.

BIBLIOGRAPHY

Books

Aristotle. DeAnima. Translated by Richard McKeon. New York: Random House, 1941.

Ashby, W. Ross. Design for a Brain. New York: John Wiley & Sons, 1960.

_____. An Introduction to Cybernetics. New York: John Wiley & Sons, 1963.

Bergson, Henri. Creative Evolution. New York: Henry Holt, 1911.

Buber, Martin. I and Thou. 2d. ed. revised. New York: Charles Scribner's Sons, 1958.

Burtt, Edwin Arthur. The Metaphysical Foundations of Modern Physical Science. 2d. ed. revised. Garden City, N. Y.: Doubleday & Co., 1955.

Butler, J. A. V. The Life of the Cell. New York: Basic Books, 1964.

_____. Science and Human Life. New York: Basic Books, 1957.

Cassirer, Ernst. An Essay on Man. New Haven: Yale University Press, 1965.

_____. The Philosophy of Symbolic Forms. 3 vols. New Haven: Yale University Press, 1965.

_____. Substance and Function. New York: Dover, 1953.

Chappell, V. C. (ed.). The Philosophy of Mind. Englewood Cliffs, N.J.: Prentice-Hall, 1962.

Dewey, John. Democracy and Education. New York: Macmillan, 1916.

_____. Experience and Nature. 2d. ed. revised. LaSalle, Ill.: Open Court, 1929.

Feigl, Herbert, et al (ed.). Minnesota Studies in the Philosophy of Science. Vol. II: Concepts, Theories, and the Mind-Body Problem. Minneapolis: University of Minnesota Press, 1963.

Haldane, Elizabeth S., and Ross, G. R. T. The Philosophical Works of Descartes. New York: Dover, 1931.

Kant, Immanual. Critique of Pure Reason. Translated by Norman Kemp Smith. New York: St. Martain's Press, 1965.

Kline, George L. (ed.). Alfred North Whitehead: Essays on His Philosophy. Englewood Cliffs, N.J.: Prentice-Hall, 1963.

Köhler, Wolfgang. Gestalt Psychology. New York: Liverright, 1929.

Maritain, Jacques. Education at the Crossroads. New Haven: Yale University Press, 1943.

Nagel, Ernest, and Newman, James R. Gödel's Proof. New York: New York University Press, 1960.

Nagel, Ernest. The Structure of Science. New York: Harcourt, Brace & World, 1961.

Ryle, Gilbert. The Concept of Mind. New York: Barnes & Nobel, 1964.

Skinner, Burrhus F. Cumulative Record. New York: Appleton-Crofts-Century, 1959.

_____. Science and Human Behavior. New York: The Free Press, 1965.

Titchener, E. B. A Textbook of Psychology. New York: Macmillan, 1910.

Tymieniecka, Anna-Teresa. Phenomenology and Science in Contemporary European Thought. New York: Noonday, 1962.

Whitehead, Alfred North. Adventures of Ideas. New York: Macmillan, 1933.

_____. An Enquiry Concerning the Principles of Natural Knowledge. Cambridge: At the University Press, 1919.

_____. Concept of Nature. Cambridge: At the University Press, 1920.

_____. Process and Reality. New York: Macmillan, 1929.

_____. Principle of Relativity. Cambridge: At the University Press, 1922.

_____. Science and the Modern World. New York: Macmillan, 1925.

Wolpe, John. Psychotherapy by Reciprocal Inhibition. Stanford: Stanford University Press, 1958.

Periodicals

Bandura, Albert. "Psychotherapy as a Learning Process," Psychological Bulletin, Vol. 58, No. 2 (1961), 143-159.

Bergin, Alan E. "The Effects of Psychotherapy: Negative Results Revisited," Journal of Counseling Psychology, X (Fall, 1963), 244-250.

Hobbs, Nicholas. "Sources of Gain in Psychotherapy," American Psychologists, XVII (1962), 741-747.

Murray, Edward. "Learning Theory and Psychotherapy: Biotropic vs. Sociotropic Approaches," Journal of Counseling Psychology, X (Fall, 1963), 250-255.

Truax, Charles B. "Effective Ingredients in Psychotherapy: An Approach to Unraveling the Patient-Therapist Interaction," Journal of Counseling Psychology, X (Fall, 1963), 256-263.